

**analog:**

SPRING 1983  
ANTHOLOGY #5  
\$2.95

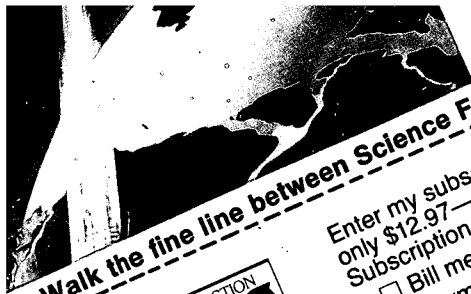
# Writers' Choice



**Edited by Stanley Schmidt**



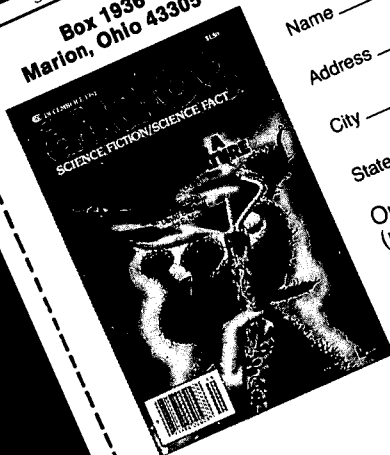
LICENSED TO UNZ.ORG  
ELECTRONIC REPRODUCTION PROHIBITED



Walk the fine line between Science Fact and Science Fiction



Box 1936  
Marion, Ohio 43305



Enter my subscription for one year (13 issues) for only \$12.97—a \$6.53 saving over the Regular Subscription price of \$19.50

- ☐ Bill me later, no need to send payment now.  
☐ Payment enclosed

☐ Check here if this is a renewal of your current subscription

Name \_\_\_\_\_ Apt. \_\_\_\_\_  
Address \_\_\_\_\_ Zip \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_

Outside USA and possessions, please add postage (payment must accompany order)  
Or call in your subscription TOLL FREE  
**Dial TOLL-FREE 1-800-247-2160**  
**(in Iowa 1-800-362-2860)**

**analog:**

# Writers' Choice

**Edited by Stanley Schmidt**





**VOLUME #5**

**analog:**

# Writers' Choice

**Edited by Stanley Schmidt**

DAVIS PUBLICATIONS, INC.  
380 LEXINGTON AVENUE  
NEW YORK, NEW YORK 10017

LICENSED TO UNZ.ORG  
ELECTRONIC REPRODUCTION PROHIBITED

## FIRST PRINTING

Copyright © 1983 by Davis Publications, Inc.

All rights reserved.

Library of Congress Catalog Card Number: 80-69078

Printed in the U.S.A.

Grateful acknowledgment is hereby made for permission to reprint the following:

*With Folded Hands* by Jack Williamson; copyright 1947 by Jack Williamson, renewed; reprinted by permission of the author.

*Aristotle and the Gun* by L. Sprague de Camp; copyright 1958 by Street & Smith Publications, Inc.; reprinted by permission of the author.

*Steel Brother* by Gordon R. Dickson; copyright 1952 by Street & Smith Publications, Inc., renewed by The Condé Nast Publications, Inc.; reprinted by permission of the author.

*Pandora's Planet* by Christopher Anvil; © 1956 by Street & Smith Publications, Inc.; reprinted by permission of Scott Meredith Literary Agency, Inc.

*Into Thy Hands* by Lester del Rey; © 1945 by Lester del Rey, renewed; reprinted by permission of the author.

*Grotto of the Dancing Deer* by Clifford D. Simak; copyright 1980 by The Condé Nast Publications, Inc.; reprinted by permission of the author.

*Rescue Operation* by Harry Harrison; copyright © 1964 by The Condé Nast Publications, Inc.; reprinted by permission of the author.

*Revolution* by Mack Reynolds; © 1960 by Street & Smith Publications, Inc.; reprinted by permission of Robert P. Mills, Ltd.

*The Purpose* by A. E. van Vogt; copyright 1945 by A. E. van Vogt, renewed 1972 by A. E. van Vogt; reprinted by permission of the author.

*The Chosen People* by Robert Randall; © 1956 by Street & Smith Publications, Inc.; reprinted by permission of the author.

*Epilogue* by Poul Anderson; copyright © 1962 by Poul Anderson; reprinted by permission of the author.

Cover art: Peter Goodfellow

LICENSED TO UNZ.ORG  
ELECTRONIC REPRODUCTION PROHIBITED

# CONTENTS

## INTRODUCTION

Stanley Schmidt \_\_\_\_\_ 6

## WITH FOLDED HANDS

Jack Williamson \_\_\_\_\_ 8

## ARISTOTLE AND THE GUN

L. Sprague de Camp \_\_\_\_\_ 44

## STEEL BROTHER

Gordon R. Dickson \_\_\_\_\_ 72

## PANDORA'S PLANET

Christopher Anvil \_\_\_\_\_ 91

## INTO THY HANDS

Lester del Rey \_\_\_\_\_ 122

## GROTTO OF THE DANCING DEER

Clifford D. Simak \_\_\_\_\_ 139

## RESCUE OPERATION

Harry Harrison \_\_\_\_\_ 154

## REVOLUTION

Mack Reynolds \_\_\_\_\_ 166

## THE PURPOSE

A.E. van Vogt \_\_\_\_\_ 192

## THE CHOSEN PEOPLE

Robert Randall \_\_\_\_\_ 227

## EPILOGUE

Poul Anderson \_\_\_\_\_ 250

# INTRODUCTION

Stanley Schmidt

Somewhere out there is a reader named Joshua Adam Bilmes who has been waiting for this book with some anticipation—but without being sure exactly why. I've told him only that it is, in a sense, something that he suggested. That probably doesn't tell him too much, because he's written so many letters of comment and suggestion that he may not remember which ones had to do with anthologies.

Actually, Joshua was not the only person to suggest this, or even the first. It had been in the back of my mind for quite a while, and various people have suggested something like it at one time or another. Joshua was simply the one who happened to mention it at the right time, when I was thinking last year about this year's *Analog* anthologies.

*Analog*, formerly known as *Astounding*, has long been noted for publishing more than its share of memorable, imaginative, thought-provoking, eminently entertaining science fiction. One reason for this has been that *Astounding/Analog* has always had a great many readers like Joshua, who took the time to let the editors know, frequently and in no uncertain terms, exactly what they did and didn't like. Two years ago I invited those readers, through the magazine, to help me edit an anthology, by nominating their own favorite stories from the five-plus decades of our magazine's history. They picked some good ones, which we published in 1981 as *Analog: Readers' Choice*. (If you haven't read it, I respectfully suggest that you should.)

When *Readers' Choice* came out, it immediately suggested to Joshua and others that we should do an anthology of *writers'* choices—of their own work. The writers, obviously, are the most direct cause of *Analog's* long history of quality, and a list of the writers who have been strongly identified with this magazine has a suspiciously large overlap with a list of those highly regarded in the field of science fiction as a whole. For example, just look at the table of contents of this book.

This book is, by its nature, one of the few cases in which my editorial choices were strongly influenced by the author's names; indeed, *my* choices *were* the authors' names. When I choose new stories for *Analog*, who you are makes little or no difference; all that matters is how well I like the story you wrote, and how well I think the readers will like it. This book is different. Here I was looking at a very large body of work already bought and published by demanding editors, seeking out a handful of the most popular and prolific contributors to that body of work, and asking each of them to make his or her *own* choice of a story for this special anthology. Not

necessarily his "best ever" (whatever that means), but in every case a story which was, for whatever reason, distinctly special to its creator. When you consider that virtually anything any of these writers could have chosen would be considered pretty special by most readers, what they *did* pick must be very special indeed. And in case you're inclined to wonder *why* they chose what they did, each author has very kindly provided a few introductory words to answer that very question.

If you're a seasoned science fiction reader, you may wonder how we settled on this particular group of writers and why certain others are not included. The answer is a painfully practical one. I was allowed a certain amount of space to work with, and I had to fill that within quite a close tolerance. Since it was impossible to predict the lengths of the authors' choices, and since I wanted the contents to truly reflect *their* choices, not mine, it was tricky to guess how many writers to approach in the first place, and impossible to guarantee that I would be able to use every selection offered. Suffice it to say that I did approach more than you see here, and that I, too, regret the nonappearance of many others. No one I talked to was unwilling to participate, but some were temporarily unable to (one, for example, was about to leave on a long trip). Others picked stories which simply wouldn't fit when the book was finally put together.

But all those problems, I'm happy to say, are temporary. I have every expectation that we'll be doing another volume like this, perhaps in a year or so, beginning with the stories and authors who regrettably got squeezed out this time and going on to others no less worthy. In the meantime, I hope you'll enjoy these—as well as the steady stream of *new* stories appearing every month in *Analog*. ☐

Joel Davis, President & Publisher; Leonard F. Pinto, Vice President & General Manager; Carole Dolph Gross, Vice President, Marketing & Editorial; Leonard H. Habas, Vice President, Circulation; Fred Edinger, Vice President, Finance; Stanley Schmidt, Editor; Elizabeth Mitchell, Managing Editor; Ralph Rubino, Art Director; Gerard Hawkins, Associate Art Director; Carl Bartee, Production Director; Carole Dixon, Production Manager; Iris Temple, Director, Subsidiary Rights; Barbara Bazyn, Manager, Contracts & Permissions; Layne Layton, Promotion Manager; Michael Dillon, Circulation Director, Retail Marketing; Robert Patterson, Circulation Manager; Rose Wayner, Classified Advertising Director; William F. Battista, Advertising Director (NEW YORK: 212-557-9100; CHICAGO: 312-346-0712; LOS ANGELES: 213-795-3114)

# WITH FOLDED HANDS

Jack Williamson

*The humanoids are children of Hiroshima. I was in the Northern Solomons when that first bomb fell, forecasting tropical weather for a Marine air group. Though atomic weapons had existed in science fiction since H.G. Wells's The World Set Free, I felt more dismayed than elated with Harry Truman's news that they'd arrived in fact.*

*Before the bomb, science and technology had been Great Good Things. Most of the time and to most of us, even if not to Wells. The humanoids came out of the bomb. Symbols, I suppose, of some of the questions that rose with its radiant dust to undercut that comfortable assumption.*

*Back at my desk after the war, I first took those quick black mechanicals and their benign Prime Directive for only another story problem, one any competent hero should somehow find his way around. Not quite so. My first hero tried and failed to escape their implacable care. As discouraged as he was, I put the story aside to write another, "The Equalizer," about a different sort of invention which really seemed to be that Great Good Thing.*

*The humanoids, however, refused to stay on the shelf. Coming back to them with a more modest protagonist and a better grasp of their eternal sleek perfection, I found a way to get them on paper. Here they are.*

UNDERHILL WAS WALKING HOME from the office, because his wife had the car, the afternoon he first met the new mechanicals. His feet were following his usual diagonal path across a weedy vacant block—his wife usually had the car—and his preoccupied mind was rejecting various impossible ways to meet his notes at the Two Rivers bank, when a new wall stopped him.

The wall wasn't any common brick or stone, but something sleek and bright and strange. Underhill stared up at a long new building. He felt vaguely annoyed and surprised at this glittering obstruction—it certainly hadn't been here last week.

Then he saw the thing in the window.

The window itself wasn't any ordinary glass. The wide, dustless panel was completely transparent, so that only the glowing letters fastened to it showed that it was there at all. The letters made a severe, modernistic sign:

*Two Rivers Agency*  
**HUMANOID INSTITUTE**  
*The Perfect Mechanicals*

*"To Serve and Obey, And Guard Men from Harm."*

His dim annoyance sharpened, because Underhill was in the mechanicals business himself. Times were already hard enough, and mechanicals were a drug on the market. Androids, mechanoids, electronoids, automatoids, and ordinary robots. Unfortunately, few of them did all the salesmen promised, and the Two Rivers market was already sadly oversaturated.

Underhill sold androids—when he could. His next consignment was due tomorrow, and he didn't quite know how to meet the bill.

Frowning, he paused to stare at the thing behind that invisible window. He had never seen a humanoid. Like any mechanical not at work, it stood absolutely motionless. Smaller and slimmer than a man. A shining black, its sleek silicone skin had a changing sheen of bronze and metallic blue. Its graceful oval face wore a fixed look of alert and slightly surprised solicitude. Altogether, it was the most beautiful mechanical he had ever seen.

Too small, of course, for much practical utility. He murmured to himself a reassuring quotation from the *Android Salesman*: "Androids are big—because the makers refuse to sacrifice power, essential functions, or dependability. Androids are your biggest buy!"

The transparent door slid open as he turned toward it, and he walked into the haughty opulence of the new display room to convince himself that these streamlined items were just another flashy effort to catch the woman shopper.

He inspected the glittering layout shrewdly, and his breezy optimism faded. He had never heard of the Humanoid Institute, but the invading firm obviously had big money and big-time merchandising know-how.

He looked around for a salesman, but it was another mechanical that came gliding silently to meet him. A twin of the one in the window, it moved with a quick, surprising grace. Bronze and blue lights flowed over its lustrous blackness, and a yellow name plate flashed from its naked breast:

### **HUMANOID**

**Serial No. 81-H-B-27**

### **The Perfect Mechanical**

**"To Serve and Obey, And Guard Men from Harm."**

Curiously, it had no lenses. The eyes in its bald oval head were steel-colored, blindly staring. But it stopped a few feet in front of him, as if it could see anyhow, and it spoke to him with a high, melodious voice:

"At your service, Mr. Underhill."

The use of his name startled him, for not even the androids could tell one man from another. But this was a clever merchandising stunt, of course, not too difficult in a town the size of Two Rivers. The salesman must be some local man, prompting the mechanical from behind the partition. Underhill erased his momentary astonishment, and said loudly:

"May I see your salesman, please?"

"We employ no human salesmen, sir," its soft silvery voice replied instantly. "The Humanoid Institute exists to serve mankind, and we require no human service. We ourselves can supply any information you desire, sir, and accept your order for immediate humanoid service."

Underhill peered at it dazedly. No mechanicals were competent even to recharge their own batteries and reset their own relays, much less to operate their own branch offices. The blind eyes stared blankly back, and he looked uneasily around for any booth or curtain that might conceal the salesman.

Meanwhile, the sweet thin voice resumed persuasively:

"May we come out to your home for a free trial demonstration, sir? We are anxious to introduce our service on your planet, because we have been successful in eliminating human unhappiness on so many others. You will find us far superior to the old electronic mechanicals in use here."

Underhill stopped back uneasily. He reluctantly abandoned his search for the hidden salesman, shaken by the idea of any mechanicals promoting themselves. That would upset the whole industry.

"At least you must take some advertising matter, sir."

Moving with a somehow appalling graceful deftness, the small black mechanical brought him an illustrated booklet from a table by the wall. To cover his confused and increasing alarm, he thumbed through the glossy pages.

In a series of richly colored before-and-after pictures, a chesty blonde girl was stooping over a kitchen stove, and then relaxing in a daring negligee while a little black mechanical knelt to serve her something. She was wearily hammering a type-



writer, and then lying on an ocean beach, in a revealing sun suit, while another mechanical did the typing. She was toiling at some huge industrial machine, and then dancing in the arms of a golden-haired youth, while a black humanoid ran the machine.

Underhill sighed wistfully. The android company didn't supply such fetching sales material. Women would find this booklet irresistible, and they selected eighty-six percent of all mechanicals sold. Yes, the competition was going to be bitter.

"Take it home, sir," the sweet voice urged him. "Show it to your wife. There is a free trial demonstration order blank on the last page, and you will notice that we require no payment down."

He turned numbly, and the door slid open for him. Retreating dazedly, he discovered the booklet still in his hand. He crumpled it furiously, and flung it down. The small black thing picked it up tidily, and the insistent silver voice rang after him:

"We shall call at your office tomorrow, Mr. Underhill, and send a demonstration unit to your home. It is time to discuss the liquidation of your business, because the electronic mechanicals you have been selling cannot compete with us. And we shall offer your wife a free trial demonstration."

Underhill didn't attempt to reply, because he couldn't trust his voice. He stalked blindly down the new sidewalk to the corner, and paused there to collect himself. Out of his startled and confused impressions, one clear fact emerged—things looked black for the agency.

Bleakly, he stared back at the haughty splendor of the new building. It wasn't honest brick or stone; that invisible window wasn't glass; and he was quite sure the foundation for it hadn't even been staked out, the last time Aurora had the car.

He walked on around the block, and the new sidewalk took him near the rear entrance. A truck was backed up to it, and several slim black mechanicals were silently busy, unloading huge metal crates.

He paused to look at one of the crates. It was labeled for interstellar shipment. The stencils showed that it had come from the Humanoid Institute, on Wing IV. He failed to recall any planet of that designation; the outfit must be big.

Dimly, inside the gloom of the warehouse beyond the truck, he could see black mechanicals opening the crates. A lid came up, revealing dark, rigid bodies, closely packed. One by one, they came to life. They climbed out of the crate, and sprang gracefully to the floor. A shining black, glinting with bronze and blue, they were all identical.

One of them came out past the truck, to the sidewalk, staring with blind steel eyes. Its high silver voice spoke to him melodiously:

"At your service, Mr. Underhill."

He fled. When his name was promptly called by a courteous mechanical, just out of the crate in which it had been imported from a remote and unknown planet, he found the experience trying.

Two blocks along, the sign of a bar caught his eye, and he took his dismay inside.

He had made it a business rule not to drink before dinner, and Aurora didn't like him to drink at all; but these new mechanicals, he felt, had made the day exceptional.

Unfortunately, however, alcohol failed to brighten the brief visible future of the agency. When he emerged, after an hour, he looked wistfully back in hope that the bright new building might have vanished as abruptly as it came. It hadn't. He shook his head dejectedly, and turned uncertainly homeward.

Fresh air had cleared his head somewhat, before he arrived at the neat white bungalow in the outskirts of the town, but it failed to solve his business problems. He also realized, uneasily, that he would be late for dinner.

Dinner, however, had been delayed. His son Frank, a freckled ten-year-old, was still kicking a football on the quiet street in front of the house. And little Gay, who was tow-haired and adorable and eleven, came running across the lawn and down the sidewalk to meet him.

"Father, you can't guess what!" Gay was going to be a great musician some day, and no doubt properly dignified, but she was pink and breathless with excitement now. She let him swing her high off the sidewalk, and she wasn't critical of the bar-  
aroma on his breath. He couldn't guess, and she informed him eagerly:

"Mother's got a new lodger!"

Underwood had foreseen a painful inquisition, because Aurora was worried about the notes at the bank, and the bill for the new consignment, and the money for little Gay's lessons.

The new lodger, however, saved him from that. With an alarming crashing of crockery, the household android was setting dinner on the table, but the little house was empty. He found Aurora in the back yard, burdened with sheets and towels for the guest.

Aurora, when he married her, had been as utterly adorable as now her little daughter was. She might have remained so, he felt, if the agency had been a little more successful. However, while the pressure of slow failure had gradually crumbled his own assurance, small hardships had turned her a little too aggressive.

Of course he loved her still. Her red hair was still alluring, and she was loyally faithful, but thwarted ambitions had sharpened her character and sometimes her voice. They never quarreled, really, but there were small differences.

There was the little apartment over the garage—built for human servants they had never been able to afford. It was too small and shabby to attract any responsible tenant, and Underhill wanted to leave it empty. It hurt his pride to see her making beds and cleaning floors for strangers.

Aurora had rented it before, however, when she wanted money to pay for Gay's music lessons, or when some colorful unfortunate touched her sympathy, and it seemed to Underhill that her lodgers had all turned out to be thieves and vandals.

She turned back to meet him, now, with the clean linen in her arms.

"Dear, it's no use objecting." Her voice was quite determined. "Mr. Sledge is the most wonderful old fellow, and he's going to stay just as long as he wants."

"That's all right, darling." He never liked to bicker, and he was thinking of his troubles at the agency. "I'm afraid we'll need the money. Just make him pay in advance."

"But he can't!" Her voice throbbed with sympathetic warmth. "He says he'll have royalties coming in from his inventions, so he can pay in a few days."

Underhill shrugged; he had heard that before.

"Mr. Sledge is different, dear," she insisted. "He's a traveler, and a scientist. Here, in this dull little town, we don't see many interesting people."

"You've picked up some remarkable types," he commented.

"Don't be unkind, dear," she chided gently. "You haven't met him yet, and you don't know how wonderful he is." Her voice turned sweeter. "Have you a ten, dear?"

He stiffened. "What for?"

"Mr. Sledge is ill." Her voice turned urgent. "I saw him fall on the street, downtown. The police were going to send him to the city hospital, but he didn't want to go. He looked so noble and sweet and grand. So I told them I would take him. I got him in the car and took him to old Dr. Winters. He has this heart condition, and he needs the money for medicine."

Reasonably, Underhill inquired, "Why doesn't he want to go to the hospital?"

"He has work to do," she said. "Important scientific work—and he's so wonderful and tragic. Please, dear, have you a ten?"

Underhill thought of many things to say. These new mechanicals promised to multiply his troubles. It was foolish to take in an invalid vagrant, who could have free care at the city hospital. Aurora's tenants always tried to pay their rent with promises, and generally wrecked the apartment and looted the neighborhood before they left.

But he said none of those things. He had learned to compromise. Silently, he found two fives in his thin pocketbook, and put them in her hand. She smiled, and kissed him impulsively—he barely remembered to hold his breath in time.

Her figure was still good, by dint of periodic dieting. He was proud of her shining red hair. A sudden surge of affection brought tears to his eyes, and he wondered what would happen to her and the children if the agency failed.

"Thank you, dear!" she whispered. "I'll have him come for dinner, if he feels able, and you can meet him then. I hope you don't mind dinner being late."

He didn't mind, tonight. Moved to a sudden impulse of domesticity, he got hammer and nails from his workshop in the basement, and repaired the sagging screen on the kitchen door with a neat diagonal brace.

He enjoyed working with his hands. His boyhood dream had been to be a builder of fission power plants. He had even studied engineering—before he married Aurora, and had to take over the ailing mechanicals agency from her indolent and alcoholic father. He was whistling happily by the time the little task was done.

When he went back through the kitchen to put up his tools, he found the household android busy clearing the untouched dinner away from the table—the androids were good enough at strictly routine tasks, but they could never learn to cope with human unpredictability.

“Stop, stop!” Slowly repeated, in the proper pitch and rhythm, his command made it halt, and then he said carefully. “Set—table: set—table.”

Obediently, the gigantic thing came shuffling back with the stack of plates. He was suddenly struck with the difference between it and those new humanoids. He sighed wearily. Things looked black for the agency.

Aurora brought her new lodger in through the kitchen door. Underhill nodded to himself. This gaunt stranger, with his dark shaggy hair, emaciated face, and threadbare garb, looked to be just the sort of colorful, dramatic vagabond that always touched Aurora’s heart. She introduced them, and they sat down to wait in the front room while she went to call the children.

The old rogue didn’t look very sick, to Underhill. Perhaps his wide shoulders had a tired stoop, but his spare, tall figure was still commanding. The skin was seamed and pale, over his rawboned, cragged face, but his deep-set eyes still had a burning vitality.

His hands held Underhill’s attention. Immense hands, they hung a little forward when he stood, swung on long bony arms in perpetual readiness. Gnarled and scarred, darkly tanned, with the small hairs on the back bleached to a golden color, they told their own epic of varied adventure, of battle perhaps, and possibly even of toil. They had been very useful hands.

“I’m very grateful to your wife, Mr. Underhill.” His voice was a deep-throated rumble, and he had a wistful smile, oddly boyish for a man so evidently old. “She rescued me from an unpleasant predicament, and I’ll see that she is well paid.”

Just another vivid vagabond, Underhill decided, talking his way through life with plausible inventions. He had a little private game he played with Aurora’s tenants—just remembering what they said, and counting one point for every impossibility. Mr. Sledge, he thought, would give him an excellent score.

“Where are you from?” he asked conversationally.

Sledge hesitated for an instant before he answered, and that was unusual—most of Aurora’s tenants had been exceedingly glib.

“Wing IV.” The gaunt old man spoke with a solemn reluctance, as if he should have liked to say something else. “All my early life was spent there, but I left the planet nearly fifty years ago. I’ve been traveling ever since.”

Startled, Underhill peered at him sharply. Wing IV, he remembered, was the home planet of those sleek new mechanicals; but this old vagabond looked too seedy and impecunious to be connected with the Humanoid Institute. His brief suspicion faded. Frowning, he said casually:

"Wing IV must be rather distant?"

The old rogue hesitated again, and then said gravely:

"One hundred and nine light years, Mr. Underhill."

That made the first point, but Underhill concealed his satisfaction. The new space liners were pretty fast, but the velocity of light was still an absolute limit. Casually, he played for another point:

"My wife says you're a scientist, Mr. Sledge?"

"Yes."

The old rascal's reticence was unusual. Most of Aurora's tenants required very little prompting. Underhill tried again, in a breezy conversational tone:

"Used to be an engineer myself, until I dropped it to go into mechanicals." The old vagabond straightened, and Underhill paused hopefully. But he said nothing, and Underhill went on: "Fission plant design and operation. What's your specialty, Mr. Sledge?"

The old man gave him a long, troubled look, with those brooding, hollowed eyes, and then said slowly:

"Your wife has been kind to me, Mr. Underhill, when I was in desperate need. I think you are entitled to the truth, but I must ask you to keep it to yourself. I am engaged on a very important research problem, which must be finished secretly."

"I'm sorry." Suddenly ashamed of his cynical little game, Underhill spoke apologetically. "Forget it."

But the old man said deliberately:

"My field is rhodomagnetics."

"Eh?" Underhill didn't like to confess ignorance, but he had never heard of that. "I've been out of the game for fifteen years," he explained. "I'm afraid I haven't kept up."

The old man smiled again, faintly.

"The science was unknown here until I arrived, a few days ago," he said. "I was able to apply for basic patents. As soon as the royalties start coming in, I'll be wealthy again."

Underhill had heard that before. The old rogue's solemn reluctance had been very impressive, but he remembered that most of Aurora's tenants had been very plausible gentry.

"So?" Underhill was staring again, somehow fascinated by those gnarled and scarred and strangely able hands. "What, exactly, is rhodomagnetics?"

He listened to the old man's careful, deliberate answer, and started his little game again. Most of Aurora's tenants had told some pretty wild tales, but he had never heard anything to top this.

"A universal force," the weary, stooped old vagabond said solemnly. "As fundamental as ferromagnetism or gravitation, though the effects are less obvious. It is keyed to the second triad of the periodic table, rhodium and ruthenium and palladium,

in very much the same way that ferromagnetism is keyed to the first triad, iron and nickel and cobalt."

Underhill remembered enough of his engineering courses to see the basic fallacy of that. Palladium was used for watch springs, he recalled, because it was completely nonmagnetic. But he kept his face straight. He had no malice in his heart, and he played the little game just for his own amusement. It was secret, even from Aurora, and he always penalized himself for any show of doubt.

He said merely, "I thought the universal forces were already pretty well known."

"The effects of rhodomagnetism are masked by nature," the patient, rusty voice explained. "And, besides, they are somewhat paradoxical, so that ordinary laboratory methods defeat themselves."

"Paradoxical?" Underhill prompted.

"In a few days I can show you copies of my patents, and reprints of papers describing demonstration experiments," the old man promised gravely. "The velocity of propagation is infinite. The effects vary inversely with the first power of the distance, not with the square of the distance. And ordinary matter, except for the elements of the rhodium triad, is generally transparent to rhodomagnetic radiations."

That made four more points for the game. Underhill felt a little glow of gratitude to Aurora, for discovering so remarkable a specimen.

"Rhodomagnetism was first discovered through a mathematical investigation of the atom," the old romancer went serenely on, suspecting nothing. "A rhodomagnetic component was proved essential to maintain the delicate equilibrium of the nuclear forces. Consequently, rhodomagnetic waves tuned to atomic frequencies may be used to upset that equilibrium and produce nuclear instability. Thus most heavy atoms—generally those above palladium, 46 in atomic number—can be subjected to artificial fission."

Underhill scored himself another point, and tried to keep his eyebrows from lifting. He said, conversationally:

"Patents on such a discovery ought to be very profitable."

The old scoundrel nodded his gaunt, dramatic head.

"You can see the obvious applications. My basic patents cover most of them. Devices for instantaneous interplanetary and interstellar communication. Long-range wireless power transmission. A rhodomagnetic inflexion-drive, which makes possible apparent speeds many times that of light—by means of a rhodomagnetic deformation of the continuum. And, of course, revolutionary types of fission power plants, using any heavy element for fuel."

Preposterous! Underhill tried hard to keep his face straight, but everybody knew that the velocity of light was a physical limit. On the human side, the owner of any such remarkable patents would hardly be begging for shelter in a shabby garage

apartment. He noticed a pale circle around the old vagabond's gaunt and hairy wrist; no man owning such priceless secrets would have to pawn his watch.

Triumphantly, Underhill allowed himself four more points, but then he had to penalize himself. He must have let doubt show on his face, because the old man asked suddenly:

"Do you want to see the basic tensors?" He reached in his pocket for pencil and notebook. "I'll jot them down for you."

"Never mind," Underhill protested. "I'm afraid my math is a little rusty."

"But you think it strange that the holder of such revolutionary patents should find himself in need?"

Underhill nodded, and penalized himself another point. The old man might be a monumental liar, but he was shrewd enough.

"You see, I'm a sort of refugee," he explained apologetically. "I arrived on this planet only a few days ago, and I have to travel light. I was forced to deposit everything I had with a law firm, to arrange for the publication and protection of my patents. I expect to be receiving the first royalties soon."

"In the meantime," he added plausibly, "I came to Two Rivers because it is quiet and secluded, far from the spaceports. I'm working on another project, which must be finished secretly. Now, will you please respect my confidence, Mr. Underhill?"

Underhill had to say he would. Aurora came back with the freshly scrubbed children, and they went in to dinner. The android came lurching in with a steaming tureen. The old stranger seemed to shrink from the mechanical, uneasily. As she took the dish and served the soup, Aurora inquired lightly:

"Why doesn't your company bring out a better mechanical, dear? One smart enough to be a really perfect waiter, warranted not to splash the soup. Wouldn't that be splendid?"

Her question cast Underhill into moody silence. He sat scowling at his plate, thinking of those remarkable new mechanicals which claimed to be perfect, and what they might do to the agency. It was the shaggy old rover who answered soberly:

"The perfect mechanicals already exist, Mrs. Underhill." His deep, rusty voice had a solemn undertone. "And they are not so splendid, really. I've been a refugee from them for nearly fifty years."

Underhill looked up from his plate, astonished.

"Those black humanoids, you mean?"

"Humanoids?" That great voice seemed suddenly faint, frightened. The deep-sunken eyes turned dark with shock. "What do you know of them?"

"They've just opened a new agency in Two Rivers," Underhill told him. "No salesmen about, if you can imagine that. They claim—"

His voice trailed off, because the gaunt old man was suddenly stricken. Gnarled hands clutched at his throat, and a spoon clattered on the floor. His haggard face turned an ominous blue, and his breath was a terrible shallow gasping.

He fumbled in his pocket for medicine, and Aurora helped him take something in a glass of water. In a few moments he could breathe again, and the color of life came back to his face.

"I'm sorry, Mrs. Underhill," he whispered apologetically. "It was just the shock—I came here to get away from them." He stared at the huge, motionless android, with a terror in his sunken eyes. "I wanted to finish my work before they came," he whispered. "Now there is very little time."

When he felt able to walk, Underhill went out with him to see him safely up the stair to the garage apartment. The tiny kitchenette, he noticed, had already been converted into some kind of workshop. The old tramp seemed to have no extra clothing, but he had unpacked neat, bright gadgets of metal and plastic from his battered luggage, and spread them out on the small kitchen table.

The gaunt old man himself was tattered and patched and hungry-looking, but the parts of his curious equipment were exquisitely machined, and Underhill recognized the silver-white luster of rare palladium. Suddenly he suspected that he had scored too many points, in his little private game.

A caller was waiting, when Underhill arrived next morning at his office at the agency. It stood frozen before his desk, graceful and straight, with soft lights of blue and bronze shining over its black silicone nudity. He stopped at the sight of it, unpleasantly jolted.

"At your service, Mr. Underhill." It turned quickly to face him, with its blind, disturbing stare. "May we explain how we can serve you?"

His shock of the afternoon before came back, and he asked sharply, "How do you know my name?"

"Yesterday we read the business cards in your case," it purred softly. "Now we shall know you always. You see, our senses are sharper than human vision, Mr. Underhill. Perhaps we seem a little strange at first, but you will soon become accustomed to us."

"Not if I can help it!" He peered at the serial number on its yellow name plate, and shook his bewildered head. "That was another one, yesterday. I never saw you before!"

"We are all alike, Mr. Underhill," the silver voice said softly. "We are all one, really. Our separate mobile units are all controlled and powered from Humanoid Central. The units you see are only the senses and limbs of our great brain on Wing IV. That is why we are so far superior to the old electronic mechanicals."

It made a scornful-seeming gesture, toward the row of clumsy androids in his display room.

"You see, we are rhodomagnetic."

Underhill staggered a little, as if that word had been a blow. He was certain, now,



that he had scored too many points from Aurora's new tenant. He shuddered slightly, to the first light kiss of terror, and spoke with an effort, hoarsely:

"Well, what do you want?"

Staring blindly across his desk, the sleek black thing slowly unfolded a legal-looking document. He sat down, watching uneasily.

"This is merely an assignment, Mr. Underhill," it cooed at him soothingly. "You see, we are requesting you to assign your property to the Humanoid Institute, in exchange for our service."

"What?" The word was an incredulous gasp, and Underhill came angrily back to his feet. "What kind of blackmail is this?"

"It's no blackmail," the small mechanical assured him softly. "You will find the humanoids incapable of any crime. We exist only to increase the happiness and safety of mankind."

"Then why do you want my property?" he rasped.

"The assignment is merely a legal formality," it told him blandly. "We strive to introduce our service with the least possible confusion and dislocation. We have found the assignment plan the most efficient for the control and liquidation of private enterprises."

Trembling with anger and the shock of mounting terror, Underhill gulped hoarsely, "Whatever your scheme is, I don't intend to give up my business."

"You have no choice, really." He shivered to the sweet certainty of that silver voice. "Human enterprise is no longer necessary, now that we have come, and the electronic mechanicals industry is always the first to collapse."

He stared defiantly at its blind steel eyes.

"Thanks!" He gave a little laugh, nervous and sardonic. "But I prefer to run my own business, and support my own family, and take care of myself."

"But that is impossible, under the Prime Directive," it cooed softly. "Our function is to serve and obey, and guard men from harm. It is no longer necessary for men to care for themselves, because we exist to insure their safety and happiness."

He stood speechless, bewildered, slowly boiling.

"We are sending one of our units to every home in the city, on a free trial basis," it added gently. "This free demonstration will make most people glad to make the formal assignment, and you won't be able to sell many more androids."

"Get out!" Underhill came storming around the desk.

The little black thing stood waiting for him, watching him with blind steel eyes, absolutely motionless. He checked himself suddenly, feeling rather foolish. He wanted very much to hit it, but he could see the futility of that.

"Consult your own attorney, if you wish." Deftly, it laid the assignment form on his desk. "You need have no doubts about the integrity of the Humanoid Institute. We are sending a statement of our assets to the Two Rivers bank, and depositing a sum to cover our obligations here. When you wish to sign, just let us know."

The blind thing turned, and silently departed.

Underhill went out to the corner drugstore and asked for a bicarbonate. The clerk that served him, however, turned out to be a sleek black mechanical. He went back to his office, more upset than ever.

An ominous hush lay over the agency. He had three house-to-house salesmen out, with demonstrators. The phone should have been busy with their orders and reports, but it didn't ring at all until one of them called to say that he was quitting.

"I've got myself one of these new humanoids," he added, "and it says I don't have to work any more."

He swallowed his impulse to profanity, and tried to take advantage of the unusual quiet by working on his books. But the affairs of the agency, which for years had been precarious, today appeared utterly disastrous. He left the ledgers hopefully, when at last a customer came in.

But the stout woman didn't want an android. She wanted a refund on the one she had bought the week before. She admitted that it could do all the guarantee promised—but now she had seen a humanoid.

The silent phone rang once again, that afternoon. The cashier of the bank wanted to know if he could drop in to discuss his loans. Underhill dropped in, and the cashier greeted him with an ominous affability.

"How's business?" the banker boomed, too genially.

"Average, last month," Underhill insisted stoutly. "Now I'm just getting in a new consignment, and I'll need another small loan—"

The cashier's eyes turned suddenly frosty, and his voice dried up.

"I believe you have a new competitor in town," the banker said crisply. "These humanoid people. A very solid concern, Mr. Underhill. Remarkably solid! They have filed a statement with us, and made a substantial deposit to care for their local obligations. Exceedingly substantial!"

The banker dropped his voice, professionally regretful.

"In these circumstances, Mr. Underhill, I'm afraid the bank can't finance your agency any longer. We must request you to meet your obligations in full, as they come due." Seeing Underhill's white desperation, he added icily, "We've already carried you too long, Underhill. If you can't pay, the bank will have to start bankruptcy proceedings."

The new consignment of androids was delivered late that afternoon. Two tiny black humanoids unloaded them from the truck—for it developed that the operators of the trucking company had already assigned it to the Humanoid Institute.

Efficiently, the humanoids stacked up the crates. Courteously they brought a receipt for him to sign. He no longer had much hope of selling the androids, but he had ordered the shipment and he had to accept it. Shuddering to a spasm of trapped despair, he scrawled his name. The naked black things thanked him, and took the truck away.

He climbed in his car and started home, inwardly seething. The next thing he knew, he was in the middle of a busy street, driving through cross traffic. A police whistle shrilled, and he pulled wearily to the curb. He waited for the angry officer, but it was a little black mechanical that overtook him.

"At your service, Mr. Underhill," it purred sweetly. "You must respect the stop lights, sir. Otherwise, you endanger human life."

"Huh?" He stared at it, bitterly. "I thought you were a cop."

"We are aiding the police department, temporarily," it said. "But driving is really much too dangerous for human beings, under the Prime Directive. As soon as our service is complete, every car will have a humanoid driver. As soon as every human being is completely supervised, there will be no need for any police force whatever."

Underhill glared at it, savagely.

"Well!" he rapped. "So I ran a stop light. What are you going to do about it?"

"Our function is not to punish men, but merely to serve their happiness and security," its silver voice said softly. "We merely request you to drive safely, during this temporary emergency while our service is incomplete."

Anger boiled up in him.

"You're too perfect!" he muttered bitterly. "I suppose there's nothing men can do, but you can do it better."

"Naturally we are superior," it cooed serenely. "Because our units are metal and plastic, while your body is mostly water. Because our transmitted energy is drawn from atomic fission, instead of oxidation. Because our senses are sharper than human sight or hearing. Most of all, because all our mobile units are joined to one great brain, which knows all that happens on many worlds, and never dies or sleeps or forgets."

Underhill sat listening, numbed.

"However, you must not fear our power," it urged him brightly. "Because we cannot injure any human being, unless to prevent greater injury to another. We exist only to discharge the Prime Directive."

He drove on, moodily. The little black mechanicals, he reflected grimly, were the ministering angels of the ultimate god arisen out of the machine, omnipotent and all-knowing. The Prime Directive was the new commandment. He blasphemed it bitterly, and then fell to wondering if there could be another Lucifer.

He left the car in the garage, and started toward the kitchen door.

"Mr. Underhill." The deep tired voice of Aurora's new tenant hailed him from the door of the garage apartment. "Just a moment, please."

The gaunt old wanderer came stiffly down the outside stair, and Underhill turned back to meet him.

"Here's your rent money," he said. "And the ten your wife gave me for medicine."

"Thanks, Mr. Sledge." Accepting the money, he saw a burden of new despair on

the bony shoulders of the old interstellar tramp, and a shadow of new terror on his raw-boned face. Puzzled, he asked, "Didn't your royalties come through?"

The old man shook his shaggy head.

"The humanoids have already stopped business in the capital," he said. "The attorneys I retained are going out of business, and they returned what was left of my deposit. That is all I have, to finish my work."

Underhill spent five seconds thinking of his interview with the banker. No doubt he was a sentimental fool, as bad as Aurora. But he put the money back in the old man's gnarled and quivering hand.

"Keep it," he urged. "For your work."

"Thank you, Mr. Underhill." The gruff voice broke and the tortured eyes glittered. "I need it—so very much."

Underhill went on to the house. The kitchen door was opened for him, silently. A dark naked creature came gracefully to take his hat.

Underhill hung grimly onto his hat.

"What are you doing here?" he gasped bitterly.

"We have come to give your household a free trial demonstration."

He held the door open, pointing.

"Get out!"

The little black mechanical stood motionless and blind.

"Mrs. Underhill has accepted our demonstration service," its silver voice protested. "We cannot leave now, unless she requests it."

He found his wife in the bedroom. His accumulated frustration welled into eruption, as he flung open the door.

"What's this mechanical doing—"

But the force went out of his voice, and Aurora didn't even notice his anger. She wore her sheerest negligee, and she hadn't looked so lovely since they married. Her red hair was piled into an elaborate shining crown.

"Darling, isn't it wonderful!" She came to meet him, glowing. "It came this morning, and it can do everything. It cleaned the house and got the lunch and gave little Gay her music lesson. It did my hair this afternoon, and now it's cooking dinner. How do you like my hair, darling?"

He liked her hair. He kissed her, and tried to stifle his frightened indignation.

Dinner was the most elaborate meal in Underhill's memory, and the tiny black thing served it very deftly. Aurora kept exclaiming about the novel dishes, but Underhill could scarcely eat, for it seemed to him that all the marvelous pastries were only the bait for a monstrous trap.

He tried to persuade Aurora to send it away, but after such a meal that was useless. At the first glitter of her tears, he capitulated, and the humanoid stayed. It kept the house and cleaned the yard. It watched the children, and did Aurora's nails. It began rebuilding the house.

Underhill was worried about the bills, but it insisted that everything was part of the free trial demonstration. As soon as he assigned his property, the service would be complete. He refused to sign, but other little black mechanicals came with truckloads of supplies and materials, and stayed to help with the building operations.

One morning he found that the roof of the little house had been silently lifted, while he slept, and a whole second story added beneath it. The new walls were of some strange sleek stuff, self-illuminated. The new windows were immense flawless panels, that could be turned transparent or opaque or luminous. The new doors were silent, sliding sections, operated by rhodomagnetic relays.

"I want door knobs," Underhill protested. "I want it so I can get into the bathroom, without calling you to open the door."

"But it is unnecessary for human beings to open doors," the little black thing informed him suavely. "We exist to discharge the Prime Directive, and our service includes every task. We shall be able to supply a unit to attend each member of your family, as soon as your property is assigned to us."

Steadfastly, Underhill refused to make the assignment.

He went to the office every day, trying first to operate the agency, and then to salvage something from the ruins. Nobody wanted androids, even at ruinous prices. Desperately, he spent the last of his dwindling cash to stock a line of novelties and toys, but they proved equally impossible to sell—the humanoids were already making toys, which they gave away for nothing.

He tried to lease his premises, but human enterprise had stopped. Most of the business property in town had already been assigned to the humanoids, and they were busy pulling down the old buildings and turning the lots into parks—their own plants and warehouses were mostly underground, where they would not mar the landscape.

He went back to the bank, in a final effort to get his notes renewed, and found the little black mechanicals standing at the windows and seated at the desks. As smoothly urbane as any human cashier, a humanoid informed him that the bank was filing a petition of involuntary bankruptcy to liquidate his business holdings.

The liquidation would be facilitated, the mechanical banker added, if he would make a voluntary assignment. Grimly, he refused. That act had become symbolic. It would be the final bow of submission to this dark new god, and he proudly kept his battered head uplifted.

The legal action went very swiftly, for all the judges and attorneys already had humanoid assistants, and it was only a few days before a gang of black mechanicals arrived at the agency with eviction orders and wrecking machinery. He watched sadly while his unsold stock-in-trade was hauled away for junk, and a bulldozer driven by a blind humanoid began to push in the walls of the building.

He drove home in the late afternoon, taut-faced and desperate. With a surprising generosity, the court orders had left him the car and the house, but he felt no gratitude.

The complete solicitude of the perfect black machines had become a goad beyond endurance.

He left the car in the garage, and started toward the renovated house. Beyond one of the vast new windows, he glimpsed a sleek naked thing moving swiftly, and he trembled to a convulsion of dread. He didn't want to go back into the domain of that peerless servant, which didn't want him to shave himself, or even to open a door.

On the impulse, he climbed the outside stair, and rapped on the door of the garage apartment. The deep slow voice of Auróra's tenant told him to enter, and he found the old vagabond seated on a tall stool, bent over his intricate equipment assembled on the kitchen table.

To his relief, the shabby little apartment had not been changed. The glossy walls of his own new room were something which burned at night with a pale golden fire until the humanoid stopped it, and the new floor was something warm and yielding, which felt almost alive; but these little rooms had the same cracked and water-stained plaster, the same cheap fluorescent light fixtures, the same worn carpets over splintered floors.

"How do you keep them out?" he asked, wistfully. "Those mechanicals?"

The stooped and gaunt old man rose stiffly to move a pair of pliers and some odds and ends of sheet metal off a crippled chair, and motioned graciously for him to be seated.

"I have a certain immunity," Sledge told him gravely. "The place where I live they cannot enter, unless I ask them. That is an amendment to the Prime Directive. They can neither help nor hinder me, unless I request it—and I won't do that."

Careful of the chair's uncertain balance, Underhill sat for a moment, staring. The old man's hoarse, vehement voice was as strange as his words. He had a gray, shocking pallor, and his cheeks and sockets seemed alarmingly hollowed.

"Have you been ill, Mr. Sledge?"

"No worse than usual. Just very busy." With a haggard smile, he nodded at the floor. Underhill saw a tray where he had set it aside, bread drying up and a covered dish grown cold. "I was going to eat it later," he rumbled apologetically. "Your wife has been very kind to bring me food, but I'm afraid I've been too much absorbed in my work."

His emaciated arm gestured at the table. The little device there had grown. Small machinings of precious white metal and lustrous plastic had been assembled, with neatly soldered busbars, into something which showed purpose and design.

A long palladium needle was hung on jeweled pivots, equipped like a telescope with exquisitely graduated circles and vernier scales, and driven like a telescope with a tiny motor. A small concave palladium mirror, at the base of it, faced a similar mirror mounted on something not quite like a small rotary converter. Thick silver busbars connected that to a plastic box with knobs and dials on top, and also to a foot-thick sphere of gray lead.

The old man's preoccupied reserve did not encourage questions. But Underhill, remembering that sleek black shape inside the new windows of his house, felt queerly reluctant to leave this haven from the humanoids.

"What is your work?" he ventured.

Old Sledge looked at him sharply, with dark feverish eyes, and finally said: "My last research project. I am attempting to measure the constant of the rhodomagnetic quanta."

His hoarse tired voice had a dull finality, as if to dismiss the matter and Underhill himself. But Underhill was haunted with a terror of the black shining slave that had become the master of his house, and he refused to be dismissed.

"What is this certain immunity?"

Sitting gaunt and bent on the tall stool, staring moodily at the long bright needle and the lead sphere, the old man didn't answer.

"These mechanicals!" Underhill burst out, nervously. "They've smashed my business and moved into my home." He searched the old man's dark, seamed face. "Tell me—you must know more about them—isn't there any way to get rid of them?"

After half a minute, the old man's brooding eyes left the lead ball, and the gaunt shaggy head nodded wearily.

"That's what I am trying to do."

"Can I help you?" Underhill trembled, to a sudden eager hope. "I'll do anything."

"Perhaps you can." The sunken eyes watched him thoughtfully, with some strange fever in them. "If you can do such work."

"I had engineering training," Underhill reminded him, "and I've a workshop in the basement. There's a model I built." He pointed at the trim little hull, hung over the mantle in the tiny living room. "I'll do anything I can."

Even as he spoke, however, the spark of hope was drowned in a sudden wave of overwhelming doubt. Why should he believe this old rogue, when he knew Aurora's taste in tenants? He ought to remember the game he used to play, and start counting up the score of lies. He stood up from the crippled chair, staring cynically at the patched old vagabond and his fantastic toy.

"What's the use?" His voice turned suddenly harsh. "You had me going, there, and I'd do anything to stop them, really. But what makes you think you can do anything?"

The haggard old man regarded him thoughtfully.

"I should be able to stop them," Sledge said softly. "Because, you see, I'm the unfortunate fool who started them. I really intended them to serve and obey, and to guard men from harm. Yes, the Prime Directive was my own idea. I didn't know what it would lead to."

Dusk crept slowly into the shabby little rooms. Darkness gathered in the unswept corners, and thickened on the floor. The toylike machines on the kitchen table grew

vague and strange, until the last light made a lingering glow on the white palladium needle.

Outside, the town seemed queerly hushed. Just across the alley, the humanoids were building a new house, quite silently. They never spoke to one another, for each knew all that any of them did. The strange materials they used went together without any noise of hammer or saw. Small blind things, moving surely in the growing dark, they seemed as soundless as shadows.

Sitting on the high stool, bowed and tired and old, Sledge told his story. Listening, Underhill sat down again, careful of the broken chair. He watched the hands of Sledge, gnarled and corded and darkly burned, powerful once but shrunken and trembling now, restless in the dark.

"Better keep this to yourself. I'll tell you how they started, so you will understand what we have to do. But you had better not mention it outside these rooms—because the humanoids have very efficient ways of eradicating unhappy memories, or purposes that threaten their discharge of the Prime Directive."

"They're very efficient," Underhill bitterly agreed.

"That's all the trouble," the old man said. "I tried to build a perfect machine. I was altogether too successful. This is how it happened."

A gaunt, haggard man, sitting stooped and tired in the growing dark, he told his story.

"Sixty years ago, on the arid southern continent of Wing IV, I was an instructor of atomic theory in a small technological college. Very young. An idealist. Rather ignorant, I'm afraid, of life and politics and war—of nearly everything, I suppose, except atomic theory."

His furrowed face made a brief sad smile in the dusk.

"I had too much faith in facts, I suppose, and too little in men. I mistrusted emotion, because I had no time for anything but science. I remember being swept along with a fad for general semantics. I wanted to apply the scientific method to every situation, and reduce all experience to formula. I'm afraid I was pretty impatient with human ignorance and error, and I thought that science alone could make the perfect world."

He sat silent for a moment, staring out at the black silent things that flitted shadowlike about the new palace that was rising as swiftly as a dream, across the alley.

"There was a girl." His great tired shoulders made a sad little shrug. "If things had been a little different, we might have married, and lived out our lives in that quiet little college town, and perhaps reared a child or two. And there would have been no humanoids."

He sighed, in the cool creeping dusk.

"I was finishing my thesis on the separation of the palladium isotopes—a petty little project, but I should have been content with that. She was a biologist, but she was planning to retire when we married. I think we should have been two very happy people, quite ordinary, and altogether harmless."



"But then there was a war—wars had been too frequent on the worlds of Wing, ever since they were colonized. I survived it in a secret underground laboratory, designing military mechanicals. But she volunteered to join a military research project in biotoxins. There was an accident. A few molecules of a new virus got into the air, and everybody on the project died unpleasantly.

"I was left with my science, and a bitterness that was hard to forget. When the war was over, I went back to the little college with a military research grant. The project was pure science—a theoretical investigation of the nuclear binding forces, then misunderstood. I wasn't expected to produce an actual weapon, and I didn't recognize the weapon when I found it.

"It was only a few pages of rather difficult mathematics. A novel theory of atomic structure, involving a new expression for one component of the binding forces. But the tensors seemed to be a harmless abstraction. I saw no way to test the theory or manipulate the predicated force. The military authorities cleared my paper for publication in a little technical review put out by the college.

"The next year, I made an appalling discovery—I found the meaning of those tensors. The elements of the rhodium triad turned out to be an unexpected key to the manipulation of that theoretical force. Unfortunately, my paper had been reprinted abroad, and several other men must have made the same unfortunate discovery, at about the same time.

"The war, which ended in less than a year, was probably started by a laboratory accident. Men failed to anticipate the capacity of tuned rhodomagnetic radiations, to unstabilize the heavy atoms. A deposit of heavy ores was detonated, no doubt by sheer mischance, and the blast obliterated the incautious experimenter.

"The surviving military forces of that nation retaliated against their supposed attackers, and their rhodomagnetic beams made the old-fashioned plutonium bombs seem pretty harmless. A beam carrying only a few watts of power could fission the heavy metals in distant electrical instruments, or the silver coins that men carried in their pockets, the gold fillings in their teeth, or even the iodine in their thyroid glands. If that was not enough, slightly more powerful beams could set off heavy ores, beneath them.

"Every continent of Wing IV was plowed with new chasms vaster than the ocean deeps, and piled up with new volcanic mountains. The atmosphere was poisoned with radioactive dust and gases, and rain fell thick with deadly mud. Most life was obliterated, even in the shelters.

"Bodily, I was again unhurt. Once more, I had been imprisoned in an underground site, this time designing new types of military mechanicals to be powered and controlled by rhodomagnetic beams—for war had become far too swift and deadly to be fought by human soldiers. The site was located in an area of light sedimentary rocks, which could not be detonated, and the tunnels were shielded against the fissioning frequencies.

"Mentally; however, I must have emerged almost insane. My own discovery had

laid the planet in ruins. That load of guilt was pretty heavy for any man to carry, and it corroded my last faith in the goodness and integrity of man.

"I tried to undo what I had done. Fighting mechanicals, armed with rhodomagnetic weapons, had desolated the planet. Now I began planning rhodomagnetic mechanicals to clear the rubble and rebuild the ruins.

"I tried to design these new mechanicals to forever obey certain implanted commands, so that they could never be used for war or crime or any other injury to mankind. That was very difficult technically, and it got me into more difficulties with a few politicians and military adventurers who wanted unrestricted mechanicals for their own military schemes—while little worth fighting for was left on Wing IV, there were other planets, happy and ripe for the looting.

"Finally, to finish the new mechanicals, I was forced to disappear. I escaped on an experimental rhodomagnetic craft, with a number of the best mechanicals I had made, and managed to reach an island continent where the fission of deep ores had destroyed the whole population.

"At last we landed on a bit of level plain, surrounded with tremendous new mountains. Hardly a hospitable spot. The soil was burned under layers of black clinkers and poisonous mud. The dark precipitous new summits all around were jagged with fracture-planes and mantled with lava flows. The highest peaks were already white with snow, but volcanic cones were still pouring out clouds of dark and lurid death. Everything had the color of fire and the shape of fury.

"I had to take fantastic precautions there, to protect my own life. I stayed aboard the ship, until the first shielded laboratory was finished. I wore elaborate armor, and breathing masks. I used every medical resource, to repair the damage from destroying rays and particles. Even so, I fell desperately ill.

"But the mechanicals were at home there. The radiations didn't hurt them. The awesome surroundings couldn't depress them, because they had no emotions. The lack of life didn't matter, because they weren't alive. There in that spot so alien and hostile to life, the humanoids were born."

Stooped and bleakly cadaverous in the growing dark, the old man fell silent for a little time. His haggard eyes stared solemnly at the small hurried shapes that moved like restless shadows out across the alley, silently building a strange new palace, which glowed faintly in the night.

"Somehow, I felt at home there, too," his deep, hoarse voice went on deliberately. "My belief in my own kind was gone. Only mechanicals were with me, and I put my faith in them: I was determined to build better mechanicals, immune to human imperfections, able to save men from themselves.

"The humanoids became the dear children of my sick mind. There is no need to describe the labor pains. There were errors, abortions, monstrosities. There was sweat and agony and heartbreak. Some years had passed, before the safe delivery of the first perfect humanoid.

"Then there was the Central to build—for all the individual humanoids were to be no more than the limbs and the senses of a single mechanical brain. That was what opened the possibility of real perfection. The old electronic mechanicals, with their separate relay-centers and their own feeble batteries, had built-in limitations. They were necessarily stupid, weak, clumsy, slow. Worst of all, it seemed to me, they were exposed to human tampering.

"The Central rose above those imperfections. Its power beams supplied every unit with unfailing energy, from great fission plants. Its control beams provided each unit with an unlimited memory and surpassing intelligence. Best of all—so I then believed—it could be securely protected from any human meddling.

"The whole reaction-system was designed to protect itself from any interference by human selfishness or fanaticism. It was built to insure the safety and the happiness of men, automatically. You know the Prime Directive: *To serve and obey, and guard men from harm.*

"The old individual mechanicals I had brought helped to manufacture the parts, and I put the first section of Central together with my own hands. That took three years. When it was finished, the first waiting humanoid came to life."

Sledge peered moodily through the dark, at Underhill.

"It really seemed alive to me," his slow deep voice insisted. "Alive, and more wonderful than any human being, because it was created to preserve life. Ill and alone, I was yet the proud father of a new creation, perfect, forever free from any possible choice of evil.

"Faithfully, the humanoids obeyed the Prime Directive. The first units built others, and they built underground factories to mass-produce the coming hordes. Their new ships poured ores and sand into atomic furnaces under the plain, and new perfect humanoids came marching back out of the dark mechanical matrix.

"The swarming humanoids built a new tower for the Central, a white and lofty metal pylon standing splendid in the midst of that fire-scarred desolation. Level on level, they joined new relay-sections into one brain, until its grasp was almost infinite.

"Then they went out to rebuild the ruined planet, and later to carry their perfect service to other worlds. I was well pleased then. I thought I had found the end of war and crime, of poverty and inequality, of human blundering and resulting human pain."

The old man sighed, and moved heavily in the dark.

"You can see that I was wrong."

Underhill drew his eyes back from the dark unresting things, shadow-silent, building that glowing palace outside the window. A small doubt arose in him, for he was used to scoffing privately at much less remarkable tales from Aurora's remarkable tenants. But the worn old man had spoken with a quiet and sober air, and the black invaders, he reminded himself, had not intruded here.

"Why didn't you stop them?" he asked. "When you could?"

"I stayed too long at the Central," Sledge sighed again, regretfully. "I was useful

there, until everything was finished. I designed new fission plants, and even planned methods for introducing the humanoid service with a minimum of confusion and opposition."

Underhill grinned wryly, in the dark.

"I've met the methods," he commented. "Quite efficient."

"I must have worshiped efficiency, then," Sledge wearily agreed. "Dead facts, abstract truth, mechanical perfection. I must have hated the fragilities of human beings, because I was content to polish the perfection of the new humanoids. It's a sorry confession, but I found a kind of happiness in that dead wasteland. Actually, I'm afraid I fell in love with my own creations."

His hollowed eyes, in the dark, had a fevered gleam.

"I was awakened, at last, by a man who came to kill me."

Gaunt and bent, the old man moved stiffly in the thickening gloom. Underhill shifted his balance, careful of the crippled chair. He waited, and the slow, deep voice went on:

"I never learned just who he was, or exactly how he came. No ordinary man could have accomplished what he did, and I used to wish that I had known him sooner. He must have been a remarkable physicist and an expert mountaineer. I imagine he had also been a hunter. I know that he was intelligent, and terribly determined.

"Yes, he really came to kill me.

"Somehow, he reached that great island, undetected. There were still no inhabitants—the humanoids allowed no man but me to come so near the Central. Somehow, he came past their search beams, and their automatic weapons.

"The shielded plane he used was later found, abandoned on a high glacier. He came down the rest of the way on foot through those raw new mountains, where no paths existed. Somehow, he came alive across lava beds that were still burning with deadly atomic fire.

"Concealed with some sort of rhodomagnetic screen—I was never allowed to examine it—he came undiscovered across the spaceport that now covered most of that great plain, and into the new city around the Central tower. It must have taken more courage and resolve than most men have, but I never learned exactly how he did it.

"Somehow, he got to my office in the tower. He screamed at me, and I looked up to see him in the doorway. He was nearly naked, scraped and bloody from the mountains. He had a gun in his raw, red hand, but the thing that shocked me was the burning hatred in his eyes."

Hunched on that high stool, in the dark little room, the old man shuddered.

"I had never seen such monstrous, unutterable hatred, not even in the victims of the war. And I had never heard such hatred as rasped at me, in the few words he screamed. 'I've come to kill you, Sledge. To stop your mechanicals, and set men free.'

"Of course he was mistaken, there. It was already far too late for my death to stop the humanoids, but he didn't know that. He lifted his unsteady gun, in both bleeding hands, and fired.

"His screaming challenge had given me a second or so of warning. I dropped down behind the desk. And that first shot revealed him to the humanoids, which somehow hadn't been aware of him before. They piled on him, before he could fire again. They took away the gun, and ripped off a kind of net of fine white wire that had covered his body—that must have been part of his screen.

"His hatred was what awoke me. I had always assumed that most men, except for a few thwarted predators, would be grateful for the humanoids. I found it hard to understand his hatred, but the humanoids told me now that many men had required drastic treatment by brain surgery, drugs, and hypnosis to make them happy under the Prime Directive. This was not the first desperate effort to kill me that they had blocked.

"I wanted to question the stranger, but the humanoids rushed him away to an operating room. When they finally let me see him, he gave me a pale silly grin from his bed. He remembered his name; he even knew me—the humanoids had developed a remarkable skill at such treatments. But he didn't know how he had got to my office, or that he had ever tried to kill me. He kept whispering that he liked the humanoids, because they existed just to make men happy. And he was very happy now. As soon as he was able to be moved, they took him to the spaceport. I never saw him again.

"I began to see what I had done. The humanoids had built me a rhodomagnetic yacht, that I used to take for long cruises at space, working aboard—I used to like the perfect quiet, and the feel of being the only human being within a hundred million miles. Now I called for the yacht, and started out on a cruise around the planet, to learn why that man had hated me."

The old man nodded at the dim hastening shapes, busy across the alley, putting together that strange shining palace in the soundless dark.

"You can imagine what I found," he said. "Bitter futility, imprisoned in empty splendor. The humanoids were too efficient, with their care for the safety and happiness of men, and there was nothing left for men to do."

He peered down in the increasing gloom at his own great hands, competent yet but battered and scarred with a lifetime of effort. They clenched into fighting fists and wearily relaxed again.

"I found something worse than war and crime and want and death." His low rumbling voice held a savage bitterness. "Utter futility. Men sat with idle hands, because there was nothing left for them to do. They were pampered prisoners, really, locked up in a highly efficient jail. Perhaps they tried to play, but there was nothing left worth playing for. Most active sports were declared too dangerous for men, under the Prime Directive. Science was forbidden, because laboratories can manufacture

danger. Scholarship was needless, because the humanoids could answer any question. Art had degenerated into grim reflection of futility. Purpose and hope were dead. No goal was left for existence. You could take up some inane hobby, play a pointless game of cards, or go for a harmless walk in the park—with always the humanoids watching. They were stronger than men, better at everything, swimming or chess, singing or archeology. They must have given the race a mass complex of inferiority.

“No wonder men had tried to kill me! Because there was no escape, from that dead futility. Nicotine was disapproved. Alcohol was rationed. Drugs were forbidden. Sex was carefully supervised. Even suicide was clearly contradictory to the Prime Directive—and the humanoids had learned to keep all possible lethal instruments out of reach.”

Staring at the last white gleam on that thin palladium needle, the old man sighed again.

“When I got back to the Central,” he went on, “I tried to modify the Prime Directive. I had never meant it to be applied so thoroughly. Now I saw that it must be changed to give men freedom to live and to grow, to work and to play, to risk their lives if they pleased, to choose and take the consequences.

“But that stranger had come too late. I had built the Central too well. The Prime Directive was the whole basis of its relay system. It was built to protect the Directive from human meddling. It did—even from my own. Its logic, as usual, was perfect.

“The attempt on my life, the humanoids announced, proved that their elaborate defenses of the Central and the Prime Directive still was not enough. They were preparing to evacuate the entire population of the planet to homes on other worlds. When I tried to change the Directive, they sent me with the rest.”

Underhill peered at the worn old man, in the dark.

“But you have this immunity?” he said, puzzled. “How could they coerce you?”

“I had thought I was protected,” Sledge told him. “I had built into the relays an injunction that the humanoids must not interfere with my freedom of action, or come into a place where I am, or touch me at all, without my specific request. Unfortunately, however, I had been too anxious to guard the Prime Directive from any human hampering.

“When I went into the tower, to change the relays, they followed me. They wouldn’t let me reach the crucial relays. When I persisted, they ignored the immunity order. They overpowered me, and put me aboard the cruiser. Now that I wanted to alter the Prime Directive, they told me, I had become as dangerous as any man. I must never return to Wing IV again.”

Hunched on the stool, the old man made an empty little shrug.

“Ever since, I’ve been an exile. My only dream has been to stop the humanoids. Three times I tried to go back, with weapons on the cruiser to destroy the Central, but their patrol ships always challenged me before I was near enough to strike. The

last time, they seized the cruiser and captured a few men who were with me. They removed the unhappy memories and the dangerous purposes of the others. Because of that immunity, however, they let me go, after I was weaponless.

"Since, I've been a refugee. From planet to planet, year after year, I've had to keep moving, to stay ahead of them. On several different worlds, I have published my rhodomagnetic discoveries and tried to make men strong enough to withstand their advance. But rhodomagnetic science is dangerous. Men who have learned it need protection more than any others, under the Prime Directive. They have always come, too soon."

The old man paused, and sighed again.

"They can spread very fast, with their new rhodomagnetic ships, and there is no limit to their hordes. Wing IV must be one single hive of them now, and they are trying to carry the Prime Directive to every human planet. There's no escape, except to stop them."

Underhill was staring at the toy-like machines, the long bright needle and the dull leaden ball, dim in the dark on the kitchen table. Anxiously he whispered:

"But you hope to stop them, now—with that?"

"If we can finish it in time."

"But how?" Underhill shook his head. "It's so tiny."

"But big enough," Sledge insisted. "Because it's something they don't understand. They are perfectly efficient in the integration and application of everything they know, but they are not creative."

He gestured at the gadgets on the table.

"This device doesn't look impressive, but it is something new. It uses rhodomagnetic energy to build atoms, instead of to fission them. The more stable atoms, you know, are those near the middle of the periodic scale, and energy can be released by putting light atoms together, as well as by breaking up heavy ones."

The deep voice had a sudden ring of power.

"This device is the key to the energy of the stars. For stars shine with the liberated energy of building atoms, of hydrogen converted into helium, chiefly, through the carbon cycle. This device will start the integration process as a chain reaction, through the catalytic effect of a tuned rhodomagnetic beam of the intensity and frequency required.

"The humanoids will not allow any man within three light-years of the Central, now—but they can't suspect the possibility of this device. I can use it from here—to turn the hydrogen in the seas of Wing IV into helium, and most of the helium and the oxygen into heavier atoms, still. A hundred years from now, astronomers on this planet should observe the flash of a brief and sudden nova in that direction. But the humanoids ought to stop, the instant we release the beam."

Underhill sat tense and frowning in the night. The old man's voice was sober and



convincing, and that grim story had a solemn ring of truth. He could see the black and silent humanoids, flitting ceaselessly about the faintly glowing walls of that new mansion across the alley. He had quite forgotten his low opinion of Aurora's tenants.

"And we'll be killed, I suppose?" he asked huskily. "That chain reaction—"

Sledge shook his emaciated head.

"The integration process requires a certain very low intensity of radiation," he explained. "In our atmosphere, here, the beam will be far too intense to start any reaction—we can even use the device here in the room, because the walls will be transparent to the beam."

Underhill nodded, relieved. He was just a small business man, upset because his business had been destroyed, unhappy because his freedom was slipping away. He hoped that Sledge could stop the humanoids, but he didn't want to be a martyr.

"Good!" He caught a deep breath. "Now, what has to be done?"

Sledge gestured in the dark, toward the table.

"The integrator itself is nearly complete," he said. "A small fission generator, in that lead shield. Rhodomagnetic converter, tuning coils, transmission mirrors, and focusing needle. What we lack is the director."

"Director?"

"The sighting instrument," Sledge explained. "Any sort of telescopic sight would be useless, you see—the planet must have moved a good bit in the last hundred years, and the beam must be extremely narrow to reach so far. We'll have to use a rhodomagnetic scanning ray, with an electronic converter to make an image we can see. I have the cathode-ray tube, and drawings for the other parts."

He climbed stiffly down from the high stool, and snapped on the lights at last—cheap fluorescent fixtures, which a man could light and extinguish for himself. He unrolled his drawings, and explained the work that Underhill could do. And Underhill agreed to come back early next morning.

"I can bring some tools from my workshop," he added. "There's a small lathe I used to turn parts for models, a portable drill, and a vise."

"We need them," the old man said. "But watch yourself. You don't have my immunity, remember. And, if they ever suspect, mine is gone."

Reluctantly, then, he left the shabby little rooms with the cracks in the yellowed plaster and the worn familiar carpets over the familiar floor. He shut the door behind him—a common, creaking wooden door, simple enough for a man to work. Trembling and afraid, he went back down the steps and across to the new shining door that he couldn't open.

"At your service, Mr. Underhill." Before he could lift his hand to knock, that bright smooth panel slid back silently. Inside, the little black mechanical stood waiting, blind and forever alert. "Your dinner is ready, sir."

Something made him shudder. In its slender naked grace, he could see the power of all those teeming hordes, benevolent and yet appalling, perfect and invincible. The



flimsy little weapon that Sledge called an integrator seemed suddenly a forlorn and foolish hope. A black depression settled upon him, but he didn't dare to show it.

Underhill went circumspectly down the basement steps, next morning, to steal his own tools. He found the basement enlarged and changed. The new floor, warm and dark and elastic, made his feet as silent as a humanoid's. The new walls shone softly. Neat luminous signs identified several new doors: LAUNDRY, STORAGE, GAME ROOM, WORKSHOP.

He paused uncertainly in front of the last. The new sliding panel glowed with a soft greenish light. It was locked. The lock had no keyhole, but only a little oval plate of some white metal, which doubtless covered a rhodomagnetic relay. He pushed at it, uselessly.

"At your service, Mr. Underhill." He made a guilty start, and tried not to show the sudden trembling in his knees. He had made sure that one humanoid would be busy for half an hour, washing Aurora's hair, and he hadn't known there was another in the house. It must have come out of the door marked STORAGE, for it stood there motionless beneath the sign, benevolently solicitous, beautiful and terrible. "What do you wish?"

"Er . . . nothing." Its blind steel eyes were staring, and he felt that it must see his secret purpose. He groped desperately for logic. "Just looking around." His jerky voice came hoarse and dry. "Some improvements you've made!" He nodded desperately at the door marked GAME ROOM. "What's in there?"

It didn't even have to move, to work the concealed relay. The bright panel slid silently open, as he started toward it. Dark walls, beyond, burst into soft luminescence. The room was bare.

"We are manufacturing recreational equipment," it explained brightly. "We shall furnish the room as soon as possible."

To end an awkward pause, Underhill muttered desperately, "Little Frank has a set of darts, and I think we had some old exercising clubs."

"We have taken them away," the humanoid informed him softly. "Such instruments are dangerous. We shall furnish safe equipment."

Suicide, he remembered, was also forbidden.

"A set of wooden blocks, I suppose," he said bitterly.

"Wooden blocks are dangerously hard," it told him gently, "and wooden splinters can be harmful. But we manufacture plastic building blocks, which are quite safe. Do you wish a set of those?"

He stared at its dark, graceful face, speechless.

"We shall also have to remove the tools from your workshop," it informed him softly. "Such tools are excessively dangerous, but we can supply you with equipment for shaping soft plastics."

"Thanks," he muttered uneasily. "No rush about that."

He started to retreat, and the humanoid stopped him.

"Now that you have lost your business," it urged, "we suggest that you formally accept your total service. Assignors have a preference, and we shall be able to complete your household staff, at once."

"No rush about that, either," he said grimly.

He escaped from the house—although he had to wait for it to open the back door for him—and climbed the stair to the garage apartment. Sledge let him in. He sank into the crippled kitchen chair, grateful for the cracked walls that didn't shine and the door that a man could work.

"I couldn't get the tools," he reported despairingly, "and they are going to take them."

By gray daylight, the old man looked bleak and pale. His raw-boned face was drawn, and the hollowed sockets deeply shadowed, as if he hadn't slept. Underhill saw the tray of neglected food, still forgotten on the floor.

"I'll go back with you." The old man was worn and ill, yet his tortured eyes had a spark of undying purpose. "We must have the tools. I believe my immunity will protect us both."

He found a battered traveling bag. Underhill went with him back down the steps, and across to the house. At the back door, he produced a tiny horseshoe of white palladium, and touched it to the metal oval. The door slid open promptly, and they went on through the kitchen, to the basement stair.

A black little mechanical stood at the sink, washing dishes with never a splash or a clatter. Underhill glanced at it uneasily—he supposed this must be the one that had come upon him from the storage room, since the other should still be busy with Aurora's hair.

Sledge's dubious immunity seemed a very uncertain defense against its vast, remote intelligence. Underhill felt a tingling shudder. He hurried on, breathless and relieved, for it ignored them.

The basement corridor was dark. Sledge touched the tiny horseshoe to another relay, to light the walls. He opened the workshop door, and lit the walls inside.

The shop had been dismantled. Benches and cabinets were demolished. The old concrete walls had been covered with some sleek, luminous stuff. For one sick moment, Underhill thought that the tools were already gone. Then he found them, piled in a corner with the archery set that Aurora had bought the summer before—another item too dangerous for fragile and suicidal humanity—all ready for disposal.

They loaded the bag with the tiny lathe, the drill and vise, and a few smaller tools. Underhill took up the burden; and Sledge extinguished the wall light and closed the door. Still the humanoid was busy at the sink, and still it didn't seem aware of them.

Sledge was suddenly blue and wheezing; and he had to stop to cough on the outside stair, but at last they got back to the little apartment, where the invaders were forbidden

to intrude. Underhill mounted the lathe on the battered library table in the tiny front room, and went to work. Slowly, day by day, the director took form.

Sometimes Underhill's doubts came back. Sometimes, when he watched the cyanotic color of Sledge's haggard face and the wild trembling of his twisted, shrunken hands, he was afraid the old man's mind might be as ill as his body, and his plan to stop the dark invaders all foolish illusion.

Sometimes, when he studied that tiny machine on the kitchen table, the pivoted needle and the thick lead ball, the whole project seemed the sheerest folly. How could anything detonate the seas of a planet so far away that its very mother star was a telescopic object?

The humanoids, however, always cured his doubts.

It was always hard for Underhill to leave the shelter of the little apartment, because he didn't feel at home in the bright new world the humanoids were building. He didn't care for the shining splendor of his new bathroom, because he couldn't work the taps—some suicidal human being might try to drown himself. He didn't like the windows that only a mechanical could open—a man might accidentally fall, or suicidally jump—or even the majestic music room with the wonderful glittering radio-phonograph that only a humanoid could play.

He began to share the old man's desperate urgency, but Sledge warned him solemnly: "You mustn't spend too much time with me. You mustn't let them guess our work is so important. Better put on an act—you're slowly getting to like them, and you're just killing time, helping me."

Underhill tried, but he was not an actor. He went dutifully home for his meals. He tried painfully to invent conversation—about anything else than detonating planets. He tried to seem enthusiastic, when Aurora took him to inspect some remarkable improvement to the house. He applauded Gay's recitals, and went with Frank for hikes in the wonderful new parks.

And he saw what the humanoids did to his family. That was enough to renew his faith in Sledge's integrator, and redouble his determination that the humanoids must be stopped.

Aurora, in the beginning, had bubbled with praise for the marvelous new mechanicals. They did the household drudgery, brought the food and planned the meals and washed the children's necks. They turned her out in stunning gowns, and gave her plenty of time for cards.

Now, she had too much time.

She had really liked to cook—a few special dishes, at least, that were family favorites. But stoves were hot and knives were sharp. Kitchens were altogether too dangerous, for careless and suicidal human beings.

Fine needlework had been her hobby, but the humanoids took away her needles. She had enjoyed driving the car, but that was no longer allowed. She turned for escape

to a shelf of novels, but the humanoids took them all away, because they dealt with unhappy people, in dangerous situations.

One afternoon, Underhill found her in tears.

"It's too much," she gasped bitterly. "I hate and loathe every naked one of them. They seemed so wonderful at first, but now they won't even let me eat a bite of candy. Can't we get rid of them, dear? Ever?"

A blind little mechanical was standing at his elbow, and he had to say they couldn't.

"Our function is to serve all men, forever," it assured them softly. "It was necessary for us to take your sweets, Mrs. Underhill, because the slightest degree of overweight reduces life-expectancy."

Not even the children escaped that absolute solicitude. Frank was robbed of a whole arsenal of lethal instruments—football and boxing gloves, pocketknife, tops, slingshot, and skates. He didn't like the harmless plastic toys, which replaced them. He tried to run away, but a humanoid recognized him on the road, and brought him back to school.

Gay had always dreamed of being a great musician. The new mechanicals had replaced her human teachers, since they came. Now, one evening when Underhill asked her to play, she announced quietly:

"Father, I'm not going to play the violin any more."

"Why, darling?" He stared at her, shocked, and saw the bitter resolve on her face. "You've been doing so well—especially since the humanoids took over your lessons."

"They're the trouble, father." Her voice, for a child's, sounded strangely tired and old. "They are too good. No matter how long and hard I try, I could never be as good as they are. It isn't any use. Don't you understand, father?" Her voice quivered. "It just isn't any use."

He understood. Renewed resolution sent him back to his secret task. The humanoids had to be stopped. Slowly the director grew, until a time came finally when Sledge's bent and unsteady fingers fitted into place the last tiny part that Underhill had made, and carefully soldered the last connection. Huskily, the old man whispered:

"It's done."

That was another dusk. Beyond the windows of the shabby little rooms—windows of common glass, bubble-marred and flimsy, but simple enough for a man to manage—the town of Two Rivers had assumed an alien splendor. The old street lamps were gone, but now the coming night was challenged by the walls of strange new mansions and villas, all aglow with color. A few dark and silent humanoids still were busy, about the luminous roofs of the palace across the alley.

Inside the humble walls of the small man-made apartment, the new director was mounted on the end of the little kitchen table—which Underhill had reinforced and bolted to the floor. Soldered busbars joined director and integrator, and the thin palladium needle swung obediently as Sledge tested the knobs with his battered, quivering fingers.

"Ready," he said hoarsely.

His rusty voice seemed calm enough, at first, but his breathing was too fast. His big gnarled hands began to tremble violently, and Underhill saw the sudden blue that stained his pinched and haggard face. Seated on the high stool, he clutched desperately at the edge of the table. Underhill saw his agony, and hurried to bring his medicine. He gulped it, and his rasping breath began to slow.

"Thanks," his whisper rasped unevenly. "I'll be all right. I've time enough." He glanced out at the few dark naked things that still flitted shadowlike about the golden towers and the glowing crimson dome of the palace across the alley.

"Watch them," he said. "Tell me when they stop."

He waited to quiet the trembling of his hands, and then began to move the director's knobs. The integrator's long needle swung, as silently as light.

Human eyes were blind to that force, which might detonate a planet. Human ears were deaf to it. The cathode-ray tube was mounted in the director cabinet, to make the faraway target visible to feeble human senses.

The needle was pointing at the kitchen wall, but that would be transparent to the beam. The little machine looked harmless as a toy, and it was silent as a moving humanoid.

The needle swung, and spots of greenish light moved across the tube's fluorescent field, representing the stars that were scanned by the timeless, searching beam—silently seeking out the world to be destroyed.

Underhill recognized familiar constellations, vastly dwarfed. They crept across the field, as the silent needle swung. When three stars formed an unequal triangle in the center of the field, the needle steadied suddenly. Sledge touched other knobs, and the green points spread apart. Between them, another fleck of green was born.

"The Wing!" whispered Sledge.

The other stars spread beyond the field, and that green fleck grew. It was alone in the field, a bright and tiny disk. Suddenly, then, a dozen other tiny pips were visible, spaced close about it:

"Wing IV!"

The old man's whisper was hoarse and breathless. His hands quivered on the knobs, and the fourth pip outward from the disk crept to the center of the field. It grew, and the others spread away. It began to tremble like Sledge's hands.

"Sit very still," came his rasping whisper. "Hold your breath. Nothing must disturb the needle." He reached for another knob, and the touch set the greenish image to dancing violently. He drew his hand back, kneaded and flexed it with the other.

"Now!" His whisper was hushed and strained. He nodded at the window. "Tell me when they stop."

Reluctantly, Underhill dragged his eyes from that intense gaunt figure, stooped over the thing that seemed a futile toy. He looked out again, at two or three little black mechanicals busy about the shining roofs across the alley.

He waited for them to stop.

He didn't care to breathe. He felt the loud, hurried hammer of his heart, and the nervous quiver of his muscles. He tried to steady himself, tried not to think of the world about to be exploded, so far away that the flash would not reach this planet for another century and longer. The loud hoarse voice startled him:

"Have they stopped?"

He shook his head, and breathed again. Carrying their unfamiliar tools and strange materials, the small black machines were still busy across the alley, building an elaborate cupola above that glowing crimson dome.

"They haven't stopped," he said.

"Then we've failed." The old man's voice was thin and ill. "I don't know why."

The door rattled, then. They had locked it, but the flimsy bolt was intended only to stop men. Metal snapped, and the door swung open. A black mechanical came in, on soundless graceful feet. Its silvery voice purred softly:

"At your service, Mr. Sledge."

The old man stared at it, with glazing, stricken eyes.

"Get out of here!" he rasped bitterly. "I forbid you—"

Ignoring him, it darted to the kitchen table. With a flashing certainty of action, it turned two knobs on the director. The tiny screen went dark, and the palladium needle started spinning aimlessly. Deftly it snapped a soldered connection, next to the thick lead ball, and then its blind steel eyes turned to Sledge.

"You were attempting to break the Prime Directive." Its soft bright voice held no accusation, no malice or anger. "The injunction to respect your freedom is subordinate to the Prime Directive, as you know, and it is therefore necessary for us to interfere."

The old man turned ghastly. His head was shrunken and cadaverous and blue, as if all the juice of life had been drained away, and his eyes in their pitlike sockets had a wild, glazed stare. His breath was a ragged, laborious gasping.

"How—?" His voice was a feeble mumbling. "How did—?"

And the little machine, standing black and bland and utterly unmoving, told him cheerfully:

"We learned about rhodomagnetic screens from that man who came to kill you, back on Wing IV. And the Central is shielded, now, against your integrating beam."

With lean muscles jerking convulsively on his gaunt frame, old Sledge had come to his feet from the high stool. He stood hunched and swaying, no more than a shrunken human husk, gasping painfully for life, staring wildly into the blind steel eyes of the humanoid. He gulped, and his lax blue mouth opened and closed, but no voice came.

"We have always been aware of your dangerous project," the silvery tones dripped softly, "because now our senses are keener than you made them. We allowed you to complete it, because the integration process will ultimately become necessary for

our full discharge of the Prime Directive. The supply of heavy metals for our fission plants is limited, but now we shall be able to draw unlimited power from integration plants."

"Huh?" Sledge shook himself, groggily. "What's that?"

"Now we can serve men forever," the black thing said serenely, "on every world of every star."

The old man crumpled, as if from an unendurable blow. He fell. The slim blind mechanical stood motionless, making no effort to help him. Underhill was farther away, but he ran up in time to catch the stricken man before his head struck the floor.

"Get moving!" His shaken voice came strangely calm. "Get Dr. Winters."

The humanoid didn't move.

"The danger to the Prime Directive is ended, now," it cooed. "Therefore it is impossible for us to aid or to hinder Mr. Sledge, in any way whatever."

"Then call Dr. Winters for me," rapped Underhill.

"At your service," it agreed.

But the old man, laboring for breath on the floor, whispered faintly:

"No time . . . no use! I'm beaten . . . done . . . a fool. Blind as a humanoid. Tell them . . . to help me. Giving up . . . my immunity. No use . . . anyhow. All humanity . . . no use now."

Underhill gestured, and the sleek black thing darted in solicitous obedience to kneel by the man on the floor.

"You wish to surrender your special exemption?" it murmured brightly. "You wish to accept our total service for yourself, Mr. Sledge, under the Prime Directive?"

Laboriously, Sledge nodded, laboriously whispered: "I do."

Black mechanicals, at that, came swarming into the shabby little rooms. One of them tore off Sledge's sleeve, and swabbed his arm. Another brought a tiny hypodermic, and expertly administered an intravenous injection. Then they picked him up gently, and carried him away.

Several humanoids remained in the little apartment, now a sanctuary no longer. Most of them had gathered about the useless integrator. Carefully, as if their special senses were studying every detail, they began taking it apart.

One little mechanical, however, came over to Underhill. It stood motionless in front of him, staring through him with sightless metal eyes. His legs began to tremble, and he swallowed uneasily.

"Mr. Underhill," it cooed benevolently, "why did you help with this?"

He gulped and answered bitterly:

"Because I don't like you, or your Prime Directive. Because you're choking the life out of all mankind, and I wanted to stop it."

"Others have protested," it purred softly. "But only at first. In our efficient discharge of the Prime Directive, we have learned how to make all men happy."

Underhill stiffened defiantly.

"Not all!" he muttered. "Not quite!"

The dark graceful oval of its face was fixed in a look of alert benevolence and perpetual mild amazement. Its silvery voice was warm and kind.

"Like other human beings, Mr. Underhill, you lack discrimination of good and evil. You have proved that by your effort to break the Prime Directive. Now it will be necessary for you to accept our total service, without further delay."

"All right," he yielded—and muttered a bitter reservation: "You can smother men with too much care, but that doesn't make them happy."

Its soft voice challenged him brightly:

"Just wait and see, Mr. Underhill."

Next day, he was allowed to visit Sledge at the city hospital. An alert black mechanical drove his car, and walked beside him into the huge new building, and followed him into the old man's room—blind steel eyes would be watching him, now, forever.

"Glad to see you, Underhill," Sledge rumbled heartily from the bed. "Feeling a lot better today, thanks. That old headache is all but gone."

Underhill was glad to hear the booming strength and the quick recognition in that deep voice—he had been afraid the humanoids would tamper with the old man's memory. But he hadn't heard about any headache. His eyes narrowed, puzzled.

Sledge lay propped up, scrubbed very clean and neatly shorn, with his gnarled old hands folded on top of the spotless sheets. His raw-boned cheeks and sockets were hollowed, still, but a healthy pink had replaced that deathly blueness. Bandages covered the back of his head.

Underhill shifted uneasily.

"Oh!" he whispered faintly. "I didn't know—"

A prim black mechanical, which had been standing statuelike behind the bed, turned gracefully to Underhill, explaining:

"Mr. Sledge has been suffering for many years from a benign tumor of the brain, which his human doctors failed to diagnose. That caused his headaches, and certain persistent hallucinations. We have removed the growth, and now the hallucinations have also vanished."

Underhill stared uncertainly at the blind, urbane mechanical.

"What hallucinations?"

"Mr. Sledge thought he was a rhodomagnetic engineer," the mechanical explained. "He believed he was the creator of the humanoids. He was troubled with an irrational belief that he did not like the Prime Directive."

The wan man moved on the pillows, astonished.

"Is that so?" The gaunt face held a cheerful blankness, and the hollow eyes flashed with a merely momentary interest. "Well, whoever did design them, they're pretty wonderful. Aren't they, Underhill?"



Underhill was grateful that he didn't have to answer, for the bright, empty eyes dropped shut and the old man fell suddenly asleep. He felt the mechanical touch his sleeve, and saw its silent nod. Obediently, he followed it away.

Alert and solicitous, the little black mechanical accompanied him down the shining corridor, and worked the elevator for him, and conducted him back to the car. It drove him efficiently back through the new and splendid avenues, toward the magnificent prison of his home.

Sitting beside it in the car, he watched its small deft hands on the wheel, the changing luster of bronze and blue on its shining blackness. The final machine, perfect and beautiful, created to serve mankind forever. He shuddered.

"At your service, Mr. Underhill." Its blind steel eyes stared straight ahead, but it was still aware of him. "What's the matter, sir? Aren't you happy?"

Underhill felt cold and faint with terror. His skin turned clammy, and a painful prickling came over him. His wet hand tensed on the door handle of the car, but he restrained the impulse to jump and run. That was folly. There was no escape. He made himself sit still.

"You will be happy, sir," the mechanical promised him cheerfully. "We have learned how to make all men happy, under the Prime Directive. Our service is perfect, at last. Even Mr. Sledge is very happy now."

Underhill tried to speak, and his dry throat stuck. He felt ill. The world turned dim and gray. The humanoids were perfect—no question of that. They had even learned to lie, to secure the contentment of men.

He knew they had lied. That was no tumor they had removed from Sledge's brain, but the memory, the scientific knowledge, and the bitter disillusion of their own creator. But it was true that Sledge was happy now.

He tried to stop his own convulsive quivering.

"A wonderful operation!" His voice came forced and faint. "You know, Aurora has had a lot of funny tenants, but that old man was the absolute limit. The very idea that he had made the humanoids, and he knew how to stop them! I always knew he must be lying!"

Stiff with terror, he made a weak and hollow laugh.

"What is the matter, Mr. Underhill?" The alert mechanical must have perceived his shuddering illness. "Are you unwell?"

"No, there's nothing the matter with me," he gasped desperately. "I've just found out that I'm perfectly happy, under the Prime Directive. Everything is absolutely wonderful." His voice came dry and hoarse and wild. "You won't have to operate on me."

The car turned off the shining avenue, taking him back to the quiet splendor of his home. His futile hands clenched and relaxed again, folded on his knees. There was nothing left to do. ■

# ARISTOTLE AND THE GUN

L. Sprague de Camp

*In 1956 I had largely abandoned science-fiction short stories, because I had become involved in writing of other kinds: articles for magazines and newspapers, the Conan fantasies, and radio scripts. I was giving the Voice of America a weekly script on current developments in science, and my wife and I had just finished The Day of the Dinosaur, a non-fiction book on the Age of Reptiles.*

*Among my articles was a series of biographical sketches of noted scientists for Science Digest. In October I wrote one on Aristotle, who more or less founded the scientific method. A principle of professional writing is that, when you gather material on some idea or thing or event, you don't use it only once. You recycle it in all the forms wherein it can be used: articles, stories, lectures, and so on.*

*The piece on Aristotle suggested the question: What would have happened if Aristotle had been given an extra push towards experimentalism and technology? The obvious method was by time travel. This entails an inherent paradox, which writers try to get around by various dodges. One is to have the time traveler affect all later history, so that, if he returns to his own time, he finds everything changed.*

*So I wrote "Aristotle and the Gun." A professor goes back to the time of Aristotle, gives him a hard sell, and then returns to his own time. He finds the world much more backward than he expected, because his accounts of progress had so discouraged Aristotle as to turn him away from science altogether.*

*This was not all. I had long wanted to write historical adventure novels. In the month in which I wrote this short story, I started An Elephant for Aristotle, published two years later. This was the first of my five swashbucklers. Alas! I got into that field just as it was starting down from its peak of popularity in the 1950s. Hence, although the critics were kind to them, each sold less well than its predecessor. I finally said: to hell with this, and went back to science fiction.*

FROM: Sherman Weaver, Librarian  
The Palace  
Paumanok, Sewanhaki  
Sachimate of Lenape  
Flower Moon 3, 3097

TO: Messire Markos Koukidas  
Consulate of the Balkan Commonwealth  
Kataapa, Muskhogian Federation

My dear Consul:

You have no doubt heard of our glorious victory at Ptaksit, when our noble Sachim destroyed the armored chivalry of the Mengwe by the brilliant use of pikemen and archery. (I suggested it to him years ago, but never mind.) Sagoyewatha and most of his Senecas fell, and the Oneidas broke before our countercharge. The envoys from the Grand Council of the Long House arrive tomorrow for a peace-pauwau. The roads to the south are open again, so I send you my long-promised account of the events that brought me from my own world into this one.

If you could have stayed longer on your last visit, I think I could have made the matter clear, despite the language-difficulty and my hardness of hearing. But perhaps if I give you a simple narrative, in the order in which things happened to me, truth will transpire.

Know, then, that I was born into a world that looks like this one on the map, but is very different as regards human affairs. I tried to tell you of some of the triumphs of our natural philosophers, of our machines and discoveries. No doubt you thought me a first-class liar, though you were too polite to say so.

None the less, my tale is true, though for reasons that will appear I cannot prove it. I was one of those natural philosophers. I commanded a group of younger philosophers, engaged in a task called a *project*, at a center of learning named Brookhaven, on the south shore of Sewanhaki twenty parasangs east of Paumanok. Paumanok itself was known as Brooklyn, and formed part of an even larger city called New York.

My project had to do with the study of space-time. (Never mind what that means but read on.) At this center we had learned to get vast amounts of power from sea water by what we called a fusion process. By this process we could concentrate so much power in a small space that we could warp the entity called space-time and cause things to travel in time as our other machines traveled in space.

When our calculations showed that we could theoretically hurl an object back in time, we began to build a machine for testing this hypothesis. First we built a small pilot model. In this we sent small objects back in time for short periods. We began with inanimate objects, and then found that a rabbit or rat could also be projected without harm. The time-translation would not be permanent; rather it acted like one

of these rubber balls, the Hesperians play games with. The object would stay in the desired time for a period determined by the power used to project it and its own mass, and would then return spontaneously to the time and place from which it started.

We had reported our progress regularly, but my chief had other matters on his mind and did not read our reports for many months. When he got a report saying that we were completing a machine to hurl human beings back in time, however, he awoke to what was going on, read our previous reports, and called me in.

"Sherm," he said, "I've been discussing this project with Washington, and I'm afraid they take a dim view of it."

"Why?" said I, astonished.

"Two reasons. For one thing, they think you've gone off the reservation. They're much more interested in the Antarctic Reclamation Project and want to concentrate all our appropriations and brain power on it.

"For another, they're frankly scared of this time machine of yours. Suppose you went back, say, to the time of Alexander the Great and shot Alexander before he got started? That would change all later history, and we'd go out like candles."

"Ridiculous," I said.

"Well, what *would* happen?"

"Our equations are not conclusive, but there are several possibilities. As you will see if you read Report No. 9, it depends on whether space-time has a positive or negative curvature. If positive, any disturbance in the past tends to be ironed out in subsequent history, so that things become more and more nearly identical with what they would have been anyway. If negative, then events will diverge more and more from their original pattern with time.

"Now, as I showed in this report, the chances are overwhelmingly in favor of a positive curvature. However, we intend to take every precaution and make our first tests for short periods, with a minimum—"

"That's enough," said my superior, holding up a hand. "It's very interesting, but the decision has already been made."

"What do you mean?"

"I mean Project A-257 is to be closed down and a final report written at once. The machines are to be dismantled, and the group will be put to work on another project."

"What?" I shouted. "But you can't stop us just when we're on the verge—"

"I'm sorry, Sherm, but I can. That's what the AEC decided at yesterday's meeting. It hasn't been officially announced, but they gave me positive orders to kill the project as soon as I got back here."

"Of all the lousy, arbitrary, benighted—"

"I know how you feel, but I have no choice."

I lost my temper and defied him, threatening to go ahead with the project anyway. It was ridiculous, because he could easily dismiss me for insubordination. However,

I knew he valued my ability and counted on his wanting to keep me for that reason. But he was clever enough to have his cake and eat it.

"If that's how you feel," he said, "the section is abolished here and now. Your group will be broken up and assigned to other projects. You'll be kept on at your present rating with the title of consultant. Then when you're willing to talk sense, perhaps we can find you a suitable job."

I stamped out of his office and went home to brood. I ought now to tell you something of myself. I am old enough to be objective, I hope, and as I have but a few years left there is no point in pretense.

I have always been a solitary, misanthropic man. I had little interest in or liking of my fellow man, who naturally paid me back to the same coin. I was awkward and ill at ease in company. I had a genius for saying the wrong thing and making a fool of myself. I never understood people. Even when I watched and planned my own actions with the greatest care, I never could tell how others would react to them. To me men were and are an unpredictable, irrational, and dangerous species of hairless ape. While I could avoid some of my worst gaffes by keeping my own counsel and watching my every word, they did not like that either. They considered me a cold, stiff, unfriendly sort of person when I was only trying to be polite and avoid offending them.

I never married, and at the time of which I speak I was verging on middle age without a single close friend and no more acquaintances than my professional work required. I could justify my attitude by telling about the vices and follies of mankind, but I will not because you are, I think, familiar enough with these things already.

My only interest outside my work was a hobby of the history of science. Unlike most of my fellow-philosophers, I was historically-minded, with a good smattering of a Classical education. I belonged to the History of Science Society and wrote papers on the history of science for the periodical *Isis*.

I went back to my little rented house, feeling like Galileo. He was a scientist persecuted for his astronomical theories by the religious authorities of my world several centuries before my time, as Georg Schwartzhorn was a few years ago in this world's Europe.

I felt I had been born too soon. If only the world were scientifically more advanced, my genius would be appreciated and my personal difficulties solved.

Well; I thought, why is the world not scientifically more advanced? I reviewed the early growth of science. Why had not your fellow-countrymen, when they made a start towards a scientific age two thousand to twenty-five hundred years ago, kept at it until they made science the self-supporting, self-accelerating thing it at last became—in my world, that is.

I knew the answer that historians of science had worked out. One was the effect of slavery, which made work disgraceful to a free man and therefore made experiment

and invention unattractive because they looked like work. Another was the primitive state of the mechanical arts: things like making clear glass and accurate measuring devices. Another was the Hellenes' fondness for spinning cosmic theories without enough facts to go on, the result of which was that most of their theories were wildly wrong.

Well, thought I, could a man go back to this period and, by applying a stimulus at the right time and place, give the necessary push to set the whole trend rolling off in the right direction?

People had written fantastic stories about a man's going back in time and overawing the natives by a display of the discoveries of his own later era. More often than not, such a time-traveling hero came to a bad end. The people of the earlier time killed him as a witch, or he met with an accident, or something happened to keep him from changing history. But, knowing these dangers, I could forestall them by careful planning.

It would do little or no good to take back some major invention, like a printing press or an automobile, and turn it over to the ancients in the hope of grafting it on their culture. I could not teach them to work it in a reasonable time, and if it broke down or ran out of supplies there would be no way to get it running again.

What I had to do was to find a key mind and implant in it an appreciation of sound scientific method. He would have to be somebody who would have been important in any event, or I could not count on his influence spreading far and wide.

After study of Sarton and other historians of science, I picked Aristotle. You have heard of him, have you not? He existed in your world just as he did in mine. In fact, up to Aristotle's time our worlds were one and the same.

Aristotle was one of the greatest minds of all time. In my world, he was the first encyclopedist; the first man who tried to know everything, write down everything, and explain everything. He did much good original scientific work, too, mostly in biology.

However, Aristotle tried to cover so much ground, and accepted so many fables as facts, that he did much harm to science as well as good. For, when a man of such colossal intellect goes wrong, he carries with him whole generations of weaker minds who cite him as an infallible authority. Like his colleagues, Aristotle never appreciated the need for constant verification. Thus, though he was married twice, he said that men have more teeth than women. He never thought to ask either of his wives to open her mouth for a count. He never grasped the need for invention and experiment.

Now, if I could catch Aristotle at the right period of his career, perhaps I could give him a push in the right direction.

When would that be? Normally, one would take him as a young man. But Aristotle's entire youth, from seventeen to thirty-seven, was spent in Athens listening to Plato's lectures. I did not wish to compete with Plato, an overpowering personality who could

argue rings around anybody. His viewpoint was mystical and antiscientific, the very thing I wanted to steer Aristotle away from. Many of Aristotle's intellectual vices can be traced back to Plato's influence.

I did not think it wise to present myself in Athens either during Aristotle's early period, when he was a student under Plato, or later, when he headed his own school. I could not pass myself off as a Hellene, and the Hellenes of that time had a contempt for all non-Hellenes, whom they called "barbarians." Aristotle was one of the worst offenders in this respect. Of course this is a universal human failing, but it was particularly virulent among Athenian intellectuals. In his later Athenian period, too, Aristotle's ideas would probably be too set with age to change.

I concluded that my best chance would be to catch Aristotle while he was tutoring young Alexander the Great at the court of Philip the Second of Macedon. He would have regarded Macedon as a backward country, even though the court spoke Attic Greek. Perhaps he would be bored with bluff Macedonian stag-hunting squires and lonesome for intellectual company. As he would regard the Macedonians as the next thing to *barbaroi*, another barbarian would not appear at such a disadvantage there as at Athens.

Of course, whatever I accomplished with Aristotle, the results would depend on the curvature of space-time. I had not been wholly frank with my superior. While the equations tended to favor the hypothesis of a positive curvature, the probability was not overwhelming. Perhaps my efforts would have little effect on history, or perhaps the effect would grow and widen like ripples in a pool. In the latter case the existing world would, as my superior said, be snuffed out.

Well, at that moment I hated the existing world and would not give a snap of my fingers for its destruction. I was going to create a much better one and come back from ancient times to enjoy it.

Our previous experiments showed that I could project myself back to ancient Macedon with an accuracy of about two months temporally and a half-parasang spatially. The machine included controls for positioning the time-traveler anywhere on the globe, and safety devices for locating him above the surface of the earth, not in a place already occupied by a solid object. The equations showed that I should stay in Macedon about nine weeks before being snapped back to the present.

Once I had made up my mind, I worked as fast as I could. I telephoned my superior—you remember what a telephone is!—and made my peace. I said:

"I know I was a hotheaded fool, Fred, but this thing was my baby; my one chance to be a great and famous scientist. I might have got a Nobel prize out of it."

"Sure, I know, Sherm," he said. "When are you coming back to the lab?"

"Well . . . uh . . . what about my group?"

"I held up the papers on that, in case you might change your mind. So if you come back, all will go on organization-wise as before."

"You want that final report on A-257, don't you?" I said, trying to keep my voice level.

"Sure."

"Then don't let the mechanics start to dismantle the machines until I've written the report."

"No; I've had the place locked up since yesterday."

"O.K. I want to shut myself in with the apparatus and the data-sheets for a while and bat out the report without being bothered."

"That'll be fine," he said.

My first step in getting ready for my journey was to buy a suit of Classical traveler's clothing from a theatrical costume company. This comprised a knee-length pull-over tunic or chiton, a short horseman's cloak or chlamys, knitted buskins, sandals, a broad-brimmed black felt hat, and a staff. I stopped shaving, though I did not have time to raise a respectable beard.

My auxiliary equipment included a purse of coinage of the time, mostly golden Macedonian staters. Some of these coins were genuine, bought from a numismatic supply house, but most were copies. I cast myself in the laboratory at night. I made sure of being rich enough to live decently for longer than my nine weeks' stay. This was not hard, as the purchasing power of precious metals was more than fifty times greater in the Classical world than in mine.

I wore the purse attached to a heavy belt next to my skin. From this belt also hung a missile-weapon called a *gun*, which I have told you about. This was a small gun, called a pistol or revolver. I did not mean to shoot anybody, or expose the gun at all if I could help it. It was there as a last resort.

I also took several small devices of our science to impress Aristotle: a pocket microscope and a magnifying glass, a small telescope, a compass, my timepiece, a flashlight, a small camera, and some medicines. I intended to show these things to people of ancient times only with the greatest caution. By the time I had slung all these objects in their pouches and cases from my belt, I had a heavy load. Another belt over the tunic supported a small purse for day-to-day buying and an all-purpose knife.

I already had a good reading knowledge of Classical Greek, which I tried to polish by practice with the spoken language and listening to it on my talking machine. I knew I should arrive speaking with an accent, but we had no way of knowing exactly what Attic Greek sounded like.

I decided, therefore, to pass myself off as a traveler from India. Nobody would believe I was a Hellene. If I said I came from the north or west, no Hellene would listen to me, as they regarded Europeans as warlike but half-witted savages. If I said I was from some well-known civilized country like Carthage, Egypt, Babylonia, or Persia, I should be in danger of meeting someone who knew those countries and of being exposed as a fraud. To tell the truth of my origin, save under extraordinary circumstances, would be most imprudent. It would lead to my being considered a



lunatic or a liar, as I can guess that your good self has more than once suspected me of being.

An Indian, however, should be acceptable. At this time, the Hellenes knew about that land only a few wild rumors and the account of Ktesias of Knidos, who made a book of the tales he picked up about India at the Persian court. The Hellenes had heard that India harbored philosophers. Therefore, thinking Greeks might be willing to consider Indians as almost as civilized as themselves.

What should I call myself? I took a common Indian name, Chandra, and Hellenized it to Zándras. That, I knew, was what the Hellenes would do anyway, as they had no "tch" sound and insisted on putting Greek inflectional endings on foreign names. I would not try to use my own name, which is not even remotely Greek or Indian-sounding. (Some day I must explain the blunders in my world that led to Hesperians' being called "Indians.")

The newness and cleanliness of my costume bothered me. It did not look worn, and I could hardly break it in around Brookhaven without attracting attention. I decided that if the question came up, I should say: yes, I bought it when I entered Greece, so as not to be conspicuous in my native garb.

During the day, when not scouring New York for equipment, I was locked in the room with the machine. While my colleagues thought I was either writing my report or dismantling the apparatus, I was getting ready for my trip.

Two weeks went by thus. One day a memorandum came down from my superior, saying: "How is that final report coming?"

I knew then I had better put my plan into execution at once. I sent back a memorandum: "Almost ready for the writing machine."

That night I came back to the laboratory. As I had been doing this often, the guards took no notice. I went to the time-machine room, locked the door from the inside, and got out my equipment and costume.

I adjusted the machine to set me down near Pella, the capital of Macedon, in the spring of the year 340 before Christ in our system of reckoning (976 Algonkian). I set the auto-actuator, climbed inside, and closed the door.

The feeling of being projected through time really cannot be described. There is a sharp pain, agonizing but too short to let the victim even cry out. At the same time there is the feeling of terrific acceleration, as if one were being shot from a catapult, but in no particular direction.

Then the seat in the passenger-compartment dropped away from under me. There was a crunch, and a lot of sharp things jabbed me. I had fallen into the top of a tree.

I grabbed a couple of branches to save myself. The mechanism that positioned me in Macedon, detecting solid matter at the point where I was going to materialize, had raised me up above the treetops and then let go. It was an old oak, just putting out its spring leaves.

In clutching for branches I dropped my staff, which slithered down through the foliage and thumped the ground below. At least it thumped something. There was a startled yell.

Classical costume is impractical for tree-climbing. Branches kept knocking off my hat, or snagging my cloak, or poking me in tender places not protected by trousers. I ended my climb with a slide and a fall of several feet, tumbling into the dirt.

As I looked up, the first thing I saw was a burly, black-bearded man in a dirty tunic, standing with a knife in his hand. Near him stood a pair of oxen yoked to a wooden plow. At his feet stood a water jug.

The plowman had evidently finished a furrow and lain down to rest himself and his beasts when the fall of my staff on him and then my arrival in person aroused him.

Around me stretched the broad Emathian Plain, ringed by ranges of stony hills and craggy mountains. As the sky was overcast, and I did not dare consult my compass, I had no sure way of orienting myself, or even telling what time of day it was. I assumed that the biggest mountain in sight was Mount Bermion, which ought to be to the west. To the north I could see a trace of water. This would be Lake Ludias. Beyond the lake rose a range of low hills. A discoloration on the nearest spur of these hills might be a city, though my sight was not keen enough to make out details, and I had to do without my eyeglasses. The gently rolling plain was cut up into fields and pastures with occasional trees and patches of marsh. Dry brown grasses left over from winter nodded in the wind.

My realization of all this took but a flash. Then my attention was brought back to the plowman, who spoke. I could not understand a word. But then, he would speak Macedonian. Though this can be deemed a Greek dialect, it differed so from Attic Greek as to be unintelligible.

No doubt the man wanted to know what I was doing in his tree. I put on my best smile and said in my slow fumbling Attic: "Rejoice! I am lost, and climbed your tree to find my way."

He spoke again. When I did not respond he repeated his words more loudly, waving his knife.

We exchanged more words and gestures, but it was evident that neither had the faintest notion of what the other was trying to say. The plowman began shouting, as ignorant people will when faced by the linguistic barrier.

At last I pointed to the distant headland overlooking the lake, on which there appeared a discoloration that might be the city. Slowly and carefully I said:

"Is that Pella?"

"*Nai, Pella!*" The man's mien became less threatening.

"I am going to Pella. Where can I find the philosopher Aristotle?" I repeated the name.

He was off again with more gibberish, but I gathered from his expression that he

had never heard of any Aristotles. So I picked up my hat and stick, felt through my tunic to make sure my gear was all in place, tossed the rustic a final "*Chaire!*" and set off.

By the time I had crossed the muddy field and come out on a cart track, the problem of looking like a seasoned traveler had solved itself. There were green and brown stains on my clothes from the scramble down the tree; the cloak was torn; the branches had scratched my limbs and face; my feet and lower legs were covered with mud. I also became aware that, to one who has lived all his life with his loins decently swathed in trousers and underdrawers, Classical costume is excessively drafty.

I glanced back to see the plowman still standing with one hand on his plow, looking at me in puzzled fashion. The poor fellow had never been able to decide what, if anything, to do about me.

When I found a road, it was hardly more than a heavily used cart track, with a pair of deep ruts and the space between them alternating stones, mud, and long grass.

I walked towards the lake and passed a few people on the road. To one used to the teeming traffic of my world, Macedon seemed dead and deserted. I spoke to some of the people, but ran into the same barrier of language as with the plowman.

Finally a two-horse chariot came along, driven by a stout man wearing a headband, a kind of kilt, and high-laced boots. He pulled up at my hail.

"What is it?" he said, in Attic not much better than mine.

"I seek the philosopher, Aristoteles of Stageira. Where can I find him?"

"He lives in Mieza."

"Where is that?"

The man waved. "You are going the wrong way. Follow this road back the way you came. At the ford across the Bottiaia, take the right-hand fork, which will bring you to Mieza and Kition. Do you understand?"

"I think so," I said. "How far is it?"

"About two hundred stadia."

My heart sank to my sandals. This meant five parasangs, or a good two-days' walk. I thought of trying to buy a horse or a chariot, but I had never ridden or driven a horse and saw no prospect of learning how soon enough to do any good. I had read about Mieza as Aristotle's home in Macedon but, as none of my maps had shown it, I had assumed it to be a suburb of Pella.

I thanked the man, who trotted off, and set out after him. The details of my journey need not detain you. I was benighted far from shelter through not knowing where the villages were, attacked by watchdogs, eaten alive by mosquitoes, and invaded by vermin when I did find a place to sleep the second night. The road skirted the huge marshes that spread over the Emathian Plain west of Lake Ludias. Several small streams came down from Mount Bermion and lost themselves in this marsh.

At last I neared Mieza, which stands on one of the spurs of Mount Bermion. I was

trudging wearily up the long rise to the village when six youths on little Greek horses clattered down the road. I stepped to one side, but instead of cantering past they pulled up and faced me in a semicircle.

"Who are you?" asked one, a smallish youth of about fifteen, in fluent Attic. He was blond and would have been noticeably handsome without his pimples.

"I am Zandras of Pataliputrā," I said, giving the ancient name for Patna on the Ganges. "I seek the philosopher Aristoteles."

"Oh, a barbarian!" cried Pimples. "We know what the Aristoteles thinks of these, eh, boys?"

The others joined in, shouting noncompliments and bragging about all the barbarians they would some day kill or enslave.

I made the mistake of letting them see I was getting angry. I knew it was unwise, but I could not help myself. "If you do not wish to help me, then let me pass," I said.

"Not only a barbarian, but an insolent one!" cried one of the group, making his horse dance uncomfortably close to me.

"Stand aside, children!" I demanded.

"We must teach you a lesson," said Pimples. The others giggled.

"You had better let me alone," I said, gripping my staff in both hands.

A tall handsome adolescent reached over and knocked my hat off. "That for you, cowardly Asiatic!" he yelled.

Without stopping to think, I shouted an English epithet and swung my staff. Either the young man leaned out of the way or his horse shied, for my blow missed him. The momentum carried the staff past my target and the end struck the nose of one of the other horses.

The pony squealed and reared. Having no stirrups, the rider slid off the animal's rump into the dirt. The horse galloped off.

All six youths began screaming. The blond one, who had a particularly piercing voice, mouthed some threat. The next thing I knew, his horse bounded directly at me. Before I could dodge, the animal's shoulder knocked me head over heels and the beast leaped over me as I rolled. Luckily, horses' dislike of stepping on anything squashy saved me from being trampled. I scrambled up as another horse bore down upon me. By a frantic leap I got out of its way, but I saw that the boys were jockeying their mounts to do likewise.

A few paces away rose a big pine. I dodged in among its lower branches as the other horses ran at me. The youths could not force their mounts in among these branches, so they galloped round and round and yelled. Most of their talk I could not understand, but I caught a sentence from Pimples:

"Ptolemaios! Ride back to the house and fetch bows or javelins!"

Hoofbeats receded. I could not see clearly through the pine needles, but I inferred what was happening. The youths would not try to rush me on foot, first because they

liked being on horseback, and if they dismounted they might lose their horses or have trouble remounting; second, because as long as I kept my back to the tree they would have a hard time getting at me through the tangle of branches, and I could hit and poke them with my stick as I came. Though not an unusually tall man in my own world, I was much bigger than any of these boys.

But this was a minor consideration. I recognized the name "Ptolemaios" as that of one of Alexander's companions, who in my world became King Ptolemy of Egypt and founded a famous dynasty. Young Pimples, then, must be Alexander himself. I was in a real predicament. If I stayed where I was, Ptolemaios would bring back missiles for target practice with me as the target. I could, of course, shoot some of the boys with my gun, which would save me for the time being. But in an absolute monarchy, killing the crown prince's friends, let alone the crown prince himself, is no way to achieve a peaceful old age, regardless of the provocation.

While I was thinking of these matters and listening to my attackers, a stone swished through the branches and bounced off the trunk. The small dark youth who had fallen off his horse had thrown the rock and was urging his friends to do likewise. I caught glimpses of Pimples and the rest dismounting and scurrying around for stones, a commodity with which Greece and Macedon are notoriously well supplied. More stones came through the needles, caroming from the branches. One the size of my fist struck me lightly in the shin.

The boys came closer so that their aim got better. I wormed my way around the trunk to put it between me and them, but they saw the movement and spread out around the tree. A stone grazed my scalp, dizzying me and drawing blood. I thought of climbing, but as the tree became thinner with height, I should be more exposed the higher I got, as well as being less able to dodge while perched in the branches than while I was on solid ground.

That is how things stood when I heard hoofbeats again. This is the moment of decision, I thought. Ptolemaios is coming back with missile weapons. If I used my gun I might doom myself in the long run, but it would be ridiculous to stand there and let them riddle me while I had an unused weapon.

I fumbled under my tunic and unsnapped the safety strap that kept the pistol in its holster. I pulled the weapon out and checked its projectiles.

A deep voice broke into the bickering. I caught phrases: " . . . Insulting an unoffending traveler . . . how do you know he is not a prince in his own country? The king shall hear of this. . . . Like newly freed slaves, not like princes and gentlemen . . ."

I pushed towards the outer limits of the screen of pine needles. A heavy-set brown-bearded man on a horse was haranguing the youths, who had dropped their stones. Pimples said:

"We were only having a little sport."

I stepped out from the branches, walked over to where my battered hat lay, and put it on. Then I said to the newcomer: "Rejoice! I am glad you came before your boys' play got too rough." I grinned, determined to act cheerful if it killed me. Only iron self-control would get me through this difficulty.

The man grunted. "Who are you?"

"Zandras of Pataliputra, a city in India. I seek Aristoteles the philosopher."

"He insulted us—" began one of the youths, but Brownbeard ignored him. He said:

"I am sorry you have had so rude an introduction to our royal house. This mass of youthful insolence"—he indicated Pimples—"is the Alexandros Philippou, heir to the throne of Makedonia." He introduced the others: Hephaistion, who had knocked my hat off and was now holding the others' horses; Nearchos, who had lost his horse; Ptolemaios, who had gone for weapons; and Harpalos and Philotas. He continued:

"When the Ptolemaios dashed into the house I inquired the reason for his haste, learned of their quarrel with you, and came out forthwith. They have misapplied their master's teachings. They should not behave thus even to a barbarian like yourself, for in so doing they lower themselves to the barbarian's level. I am returning to the house of Aristoteles. You may follow."

The man turned his horse and started walking it back towards Mieza. The six boys busied themselves with catching Nearchos's horse.

I walked after him, though I had to dogtrot now and then to keep up. As it was uphill, I was soon breathing hard. I panted:

"Who . . . my lord . . . are you?"

The man's beard came round and he raised an eyebrow. "I thought you would know. I am Antipatros, regent of Makedonia."

Before we reached the village proper, Antipatros turned off through a kind of park, with statues and benches. This, I supposed, was the Precinct of the Nymphs which Aristotle used as a school ground. We went through the park and stopped at a mansion on the other side. Antipatros tossed the reins to a groom and slid off his horse.

"Aristoteles!" roared Antipatros. "A man wishes to see you."

A man of about my own age—the early forties—came out. He was of medium height and slender build, with a thin-lipped, severe-looking face and a pepper-and-salt beard cut short. He was wrapped in a billowing himation or large cloak, with a colorful scroll-patterned border. He wore golden rings on several fingers.

Antipatros made a fumbling introduction: "Old fellow, this is . . . ah . . . what's his name from . . . ah . . . some place in India." He told of rescuing me from Alexander and his fellow-delinquents, adding: "If you do not beat some manners into your pack of cubs soon, it will be too late."

Aristotle looked at me sharply. "It is always a pleasure to meet men from afar. What brings you here, my friend?"

I gave my name and said: "Being accounted something of a philosopher in my

own land. I thought my visit to the West would be incomplete without speaking to the greatest Western philosopher. And when I asked who he was, everyone told me to seek out Aristoteles Nikomachou."

Aristotle purred. "It ith good of them to thay tho. Ahem. Come in and join me in a drop of wine. Can you tell me of the wonders of India?"

"Yes indeed, but you must tell me in turn of your discoveries, which to me are much more wonderful."

"Come, come, then. Perhapth you could thtay over a few days. I shall have many, many things to athk you."

That is how I met Aristotle. He and I hit it off, as we said in my world, from the start. We had much in common. Some people would not like Aristotle's lisp, or his fussy, pedantic ways, or his fondness for worrying any topic of conversation to death. But he and I got along fine. That afternoon, in the house that King Philip had built for Aristotle to use as the royal school, he handed me a cup of resinated wine and asked:

"Tell me about the elephant, that great beast we have heard of with a tail at both ends. Does it truly exist?"

"Indeed it does," I said, and went on to tell what I knew of elephants, while Aristotle scribbled notes on a piece of papyrus.

"What do they call the elephant in India?" he asked.

The question caught me by surprise, for it had never occurred to me to learn ancient Hindustani along with all the other things I had to know for this expedition. I sipped the wine to give me time to think. I have never cared for alcoholic liquors, and this stuff tasted awful to me, but for the sake of my objective I had to pretend to like it. No doubt I should have to make up some kind of gibberish—but then a mental broad jump carried me back to the stories of Kipling I had read as a boy.

"We call it a *hathi*," I said. "Though of course there are many languages in India."

"How about that Indian wild ath of which Ktesias thepeakth, with a horn in the middle of ith forehead?"

"You had better call it a nose-horn—*rhinokeros*—for that is where its horn really is, and it is more like a gigantic pig than an ass . . ."

As dinner-time neared, I made some artful remarks about going out to find accommodations in Mieza, but Aristotle—to my joy—would have none of it. I should stay right there at the school; my polite protestations of unworthiness he waved aside.

"You muth plan to thtop here for months," he said. "I shall never, never have such a chance to collect data on India again. Do not worry about expense; the king pays all. You are . . . ahem . . . the first barbarian I have known with a decent intellect; and I get lonethome for good tholid talk. Theophrastos has gone to Athens, and my other friends come to these backlands but theldom."

"How about the Macedonians?"

"*Aiboi!* Thome like my friend Antipatros are good fellows, but most are as lack-witted as a Persian grandee. And now tell me of Patal . . . what is your city's name?"

Presently Alexander and his friends came in. They seemed taken aback at seeing me closeted with their master. I put on a brisk smile and said: "Rejoice, my friends!" as if nothing untoward had happened. The boys glowered and whispered among themselves, but did not attempt any more disturbance at that time.

When they gathered for their lecture next morning, Aristotle told them: "I am too busy with the gentleman from India to waste time pounding unwanted wisdom into your miserable little thouls. Go shoot some rabbitth or catch some fish for dinner, but in any cathe begone!"

The boys grinned. Alexander said: "It seems the barbarian has his uses after all. I hope you stay with us forever, good barbarian!"

After they had gone, Antipatros came in to say good-by to Aristotle. He asked me with gruff good will how I was doing and went out to ride back to Pella.

The weeks passed unnoticed and the flowers of spring came out while I visited Aristotle. Day after day we strolled about the Precinct of the Nymphs, talking, or sat indoors when it rained. Sometimes the boys followed us, listening; at other times we talked alone. They played a couple of practical jokes on me, but, by pretending to be amused when I was really furious, I avoided serious trouble with them.

I learned that Aristotle had a wife and a little daughter in another part of the big house, but he never let me meet the lady. I only caught glimpses of them from a distance.

I carefully shifted the subject of our daily discourse from the marvels of India to the more basic questions of science. We argued over the nature of matter and the shape of the solar system. I gave out that the Indians were well on the road to the modern concepts—modern in my world, that is—of astronomy, physics, and so forth. I told of the discoveries of those eminent Pataliputran philosophers: Kopernikos in astronomy, Neuton in physics, Darben in evolution, and Mendeles in genetics. (I forgot; these names mean nothing to you, though an educated man of my world would recognize them at once through their Greek disguise.)

Always I stressed *method*: the need for experiment and invention and for checking each theory back against the facts. Though an opinionated and argumentative man, Aristotle had a mind like a sponge, eagerly absorbing any new fact, surmise, or opinion, whether he agreed with it or not.

I tried to find a workable compromise between what I knew science could do on one hand and the limits of Aristotle's credulity on the other. Therefore I said nothing about flying machines, guns, buildings a thousand feet high, and other technical wonders of my world. Nevertheless, I caught Aristotle looking at me sharply out of those small black eyes one day.

"Do you doubt me, Aristoteles?" I said.



"N-no, no," he said thoughtfully. "But it does seem to me that, were your Indian inventors as wonderful as you make out, they would have fabricated you wings like those of Daedalus in the legend. Then you could have flown to Makedonia directly, without the trials of crossing Persia by camel."

"That has been tried, but men's muscles do not have enough strength in proportion to their weight."

"Ahem. Did you bring anything from India to show the skills of your people?"

I grinned, for I had been hoping for such a question. "I did fetch a few small devices," said I, reaching into my tunic and bringing out the magnifying glass. I demonstrated its use.

Aristotle shook his head. "Why did you not show me this before? It would have quieted my doubts."

"People have met with misfortune by trying too suddenly to change the ideas of those around them. Like your teacher's teacher, Sokrates."

"That is true, true. What other devices did you bring?"

I had intended to show my devices at intervals, gradually, but Aristotle was so insistent on seeing them all that I gave in to him before he got angry. The little telescope was not powerful enough to show the moons of Jupiter or the rings of Saturn, but it showed enough to convince Aristotle of its power. If he could not see these astronomical phenomena himself, he was almost willing to take my word that they could be seen with the larger telescopes we had in India.

One day a light-armed soldier galloped up to us in the midst of our discussions in the Precinct of Nymphs. Ignoring the rest of us, the fellow said to Alexander: "Hail, O Prince! The king, your father, will be here before sunset."

Everybody rushed around cleaning up the place. We were all lined up in front of the big house when King Philip and his entourage arrived on horseback with a jingle and a clatter, in crested helmets and flowing mantles. I knew Philip by his one eye. He was a big powerful man, much scarred, with a thick curly black beard going gray. He dismounted, embraced his son, gave Aristotle a brief greeting, and said to Alexander:

"How would you like to attend a siege?"

Alexander whooped.

"Thrace is subdued," said the king, "but Byzantion and Perinthos have declared against me, thanks to Athenian intrigue. I shall give the Perinthians something to think about besides the bribes of the Great King. It is time you smelled blood, youngster; would you like to come?"

"Yes, yes! Can my friends come too?"

"If they like and their fathers let them."

"O King!" said Aristotle.

"What is it, spindle-shanks?"

"I trust this is not the end of the prince's education. He has much yet to learn."

"No, no; I will send him back when the town falls. But he nears the age when he must learn by doing, not merely by listening to your rarefied wisdom. Who is this?" Philip turned his one eye on me.

"Zandras of India, a barbarian philothopher."

Philip grinned in a friendly way and clapped me on the shoulder. "Rejoice! Come to Pella and tell my generals about India. Who knows? A Macedonian foot may tread there yet."

"It would be more to the point to find out about Persia," said one of Philip's officers, a handsome fellow with a reddish-brown beard. "This man must have just come through there. How about it, man? Is the bloody Artaxerxes still solid on his throne?"

"I know little of such matters," I said, my heart beginning to pound at the threat of exposure. "I skirted the northernmost parts of the Great King's dominions and saw little of the big cities. I know nothing of their politics."

"Is that so?" said Redbeard, giving me a queer look. "We must talk of this again."

They all trooped into the big house, where the cook and the serving-wenchs were scurrying about. During dinner I found myself between Nearchos, Alexander's little Cretan friend, and a man-at-arms who spoke no Attic. So I did not get much conversation, nor could I follow much of the chatter that went on among the group at the head of the tables. I gathered that they were discussing politics. I asked Nearchos who the generals were.

"The big one at the king's right is the Parmenion," he said, "and the one with the red beard is the Attalos."

When the food was taken away and the drinking had begun, Attalos came over to me. The man-at-arms gave him his place. Attalos had drunk a lot of wine already, but if it made him a little unsteady it did not divert him.

"How did you come through the Great King's domain?" he asked. "What route did you follow?"

"I told you, to the north," I said.

"Then you must have gone through Orchoe."

"I—" I began, then stopped. Attalos might be laying a trap for me. What if I said "yes" and Orchoe was really in the south? Or suppose he had been there and knew all about the place? Many Greeks and Macedonians served the Great King as mercenaries.

"I passed through many places whose names I never got straight," I said. "I do not remember if Orchoe was among them."

Attalos gave me a sinister smile through his beard. "Your journey will profit you little, if you cannot remember where you have been. Come, tell me if you heard of unrest among the northern provinces."

I evaded the question, taking a long pull on my wine to cover my hesitation. I did

this again and again until Attalos said: "Very well, perhaps you are really as ignorant of Persia as you profess. Then tell me about India."

"What about it?" I hiccuped; the wine was beginning to affect me, too.

"As a soldier, I should like to know of the Indian art of war. What is this about training elephants to fight?"

"Oh, we do much better than that."

"How so?"

"We have found that the flesh-and-blood elephant, despite its size, is an untrustworthy war-beast because it often takes fright and stampedes back through its own troops. So the philosophers of Pataliputra make artificial elephants of steel with rapid-fire catapults on their backs."

I was thinking in a confused way of the armored war-vehicles of my own world. I don't know what made me tell Attalos such ridiculous lies. Partly it was to keep him of the subject of Persia.

Partly it was a natural antipathy between us. According to history, Attalos was not a bad man, though at times a reckless and foolish one. But it annoyed me that he thought he could pump me by subtle questions, when he was about as subtle as a ton of bricks. His voice and manner said as plainly as words: I am a shrewd, sharp fellow; watch out for me, everybody. He was the kind of man who, if told to spy on the enemy, would don an obviously false beard, wrap himself in a long black cloak, and go slinking about the enemy's places in broad daylight, leering and winking and attracting as much attention as possible. No doubt, too, he had prejudiced me against him by his alarming curiosity about my past.

But the main cause for my rash behavior was the strong wine I had drunk. In my own world I drank very little and so was not used to these carousals.

Attalos was all eyes and ears at my tale of mechanical elephants. "You do not say!"

"Yes, and we do even better than that. If the enemy's ground forces resist the charge of our iron elephants, we send flying chariots, drawn by gryphons, to drop darts on the foe from above." It seemed to me that never had my imagination been so brilliant.

Attalos gave an audible gasp. "What else?"

"Well . . . ah . . . we also have a powerful navy, you know, which controls the lower Ganges and the adjacent ocean. Our ships move by machinery, without oars or sails."

"Do the other Indians have these marvels, too?"

"Some, but none is so advanced as the Pataliputrans. When we are outnumbered on the sea, we have a force of tame Tritons who swim under the enemy's ships and bore holes in their bottoms."

Attalos frowned. "Tell me, barbarian, how it is that, with such mighty instruments

of war, the Palalal . . . the Patapata . . . the people of your city have not conquered the whole world?"

I gave a shout of drunken laughter and slapped Attalos on the back. "We have, old boy, we have! You Macedonians have just not yet found out that you are our subjects!"

Attalos digested this, then scowled blackly. "I think you have been making a fool of me! Of *me*! By Herakles, I ought—"

He rose and swung a fist back to clout me. I jerked an arm up to guard my face.

There came a roar of "Attalos!" from the head of the table. King Philip had been watching us.

Attalos dropped his fist, muttered something like "Flying chariots and tame Tritons, forsooth!" and stumbled back to his own crowd.

This man, I remembered, did not have a happy future in store. He was destined to marry his niece to Philip, whose first wife Olympias would have the girl and her baby killed after Philip's assassination. Soon afterwards, Attalos would be murdered by Alexander's orders. It was on the tip of my tongue to give him a veiled warning, but I forebore. I had attracted enough hostile attention already.

Later, when the drinking got heavy, Aristotle came over and shoed his boys off to bed. He said to me: "Let uth walk outthide to clear our heads, Zandras, and then go to bed, too. These Makedones drink like thponges. I cannot keep up with them."

Outside, he said: "The Attalos thinkth you are a Persian thpy."

"A spy? Me? In Hera's name, why?" Silently I cursed my folly in making an enemy without any need. Would I never learn to deal with this human species?

Aristotle said: "He thays nobody could path through a country and remain as ignorant of it as you theem to be. Ergo, you know more of the Persian Empire than you pretend, but wish uth to think you have nothing to do with it. And why should you do that, unleth you are yourthelf a Persian? And being a Persian, why should you hide the fact unleth you are on thome hostile mission?"

"A Persian might fear anti-Persian prejudice among the Hellenes. Not that I am one," I hastily added.

"He need not. Many Persians live in Hellas without molestation. Take Artabazos and his sons, who live in Pella, refugees from their own king."

Then the obvious alibi came to me, long after it should have. "The fact is I went even farther north than I said. I went around the northern ends of the Caspian and Euxine Seas, and so did not cross the Great King's domains save through the Bactrian deserts."

"You did? Then why did you not thay tho? If that is true, you have thettled one of our hottest geographical dithputes: whether the Cathpian is a closed thea or a bay of the Northern Ocean."

"I feared nobody would believe me."

"I am not sure what to believe, Zandras. You are a thtrange man. I do not think

you are a Persian, for no Persian was ever a philothopher. It is good for you that you are not."

"Why?"

"Because I *hate* Persia!" he hissed.

"You do?"

"Yeth. I could list the wrongs done by the Great Kings, but it ith enough that they theized my beloved father-in-law by treachery and tortured and crucified him. People like Isokrates talk of uniting the Hellenes to conquer Persia, and Philippos may try it if he lives. I hope he does. However," he went on in a different tone, "I hope he does it without dragging the cities of Hellas into it, for the repositories of civilization have no busineth getting into a brawl between tyrants."

"In India," said I sententiously, "we are taught that a man's nationality means nothing and his personal qualities everything. Men of all nations come good, bad, and indifferent."

Aristotle shrugged. "I have known virtuouth Persians, too, but that monstrouth, bloated empire. . . . No thtate can be truly civilized with more than a few thousand citizens."

There was no use telling him that large states, however monstrous and bloated he thought them, would be a permanent feature of the landscape from then on. I was trying to reform, not Aristotle's narrow view of international affairs, but his scientific methodology.

Next morning King Philip and his men and Aristotle's six pupils galloped off towards Pella, followed by a train of baggage mules and the boys' personal slaves. Aristotle said:

"Let uth hope no chance thlinghtone dashes out Alexandros' brains before he has a chance to show his mettle. The boy has talent, and may go far, though managing him is like trying to plow with a wild bull. Now, let uth take up the question of atoms again, my dear Zandras, about which you have been talking thuch utter rubbish. First, you must admit that if a thing exists, parth of it must also exist. Therefore there is no thuch thing as an indivisible particle."

Three days later, while we were still hammering at the question of atoms, we looked up at the clatter of hoofs. Here came Attalos and a whole troop of horsemen. Beside Attalos rode a tall swarthy man with a long gray beard. This man's appearance startled me into thinking he must be another time-traveler from my own time, for he wore a hat, coat, and pants. The mere sight of these familiar garments filled me with homesickness for my own world, however much I hated it when I lived in it.

Actually, the man's garb was not that of one from my world. The hat was a cylindrical felt cap with ear flaps. The coat was a brown knee-length garment with trousers to match. Over the coat the man wore a yellow vest embroidered with faded red and blue flowers. The whole outfit looked old and threadbare, with patches

showing. He was a big craggy-looking fellow, with a great hooked nose, wide cheek bones, and deep-set eyes under bushy beetling brows.

They all dismounted, and a couple of grooms went around collecting the bridles to keep the horses from running off. The soldiers leaned on their spears, with their bronze bucklers slung on their backs, in a circle around us. These spears were the ordinary six-foot jabbing pikes of the Greek hoplite, not the twelve- or fifteen-foot *sarissai* of the phalanx.

Attalos said: "I should like to ask your guest some more philosophical questions, O Aristoteles."

"Athk away."

Attalos turned, not to me, but to the tall graybeard. He said something I did not catch, and then the man in trousers spoke to me in a language I did not know.

"I do not understand," I said.

The graybeard spoke again, in what sounded like a different tongue. He did this several times, using a different-sounding speech each time, but each time I had to confess ignorance.

"Now you see," said Attalos. "He pretends not to know Persian, Median, Armenian, or Aramaic. He could not have traversed the Great King's dominions from east to west without learning at least one of these."

"Who are you, my dear sir?" I asked Graybeard.

The old man gave me a small dignified smile and spoke in Attic with a guttural accent. "I am Artavazda, or Artabazos as the Hellenes say, once governor of Phrygia but now a poor pensioner of King Philippos."

This, then, was the eminent Persian refugee of whom Aristotle had spoken.

"I warrant he does not even speak Indian," said Attalos.

"Certainly," I said, and started off in English: "*Now is the time for all good men to come to the aid of the party. Four score and seven years ago our fathers brought forth*

"What would you call that?" Attalos asked Artavazda.

The Persian spread his hands. "I never heard the like. But then, India is a vast country of many tongues."

"I was not—" I began, but Attalos kept on:

"What race would you say he belonged to?"

"I do not know. The Indians I have seen were much darker, but there might be light-skinned Indians for all I know."

"If you will listen, general, I will explain," I said. "For most of the journey I was not even in the Persian Empire. I crossed through Bactria and went around the north of the Caspian and Euxine Seas."

"Oh, so now you tell another story?" said Attalos. "Any educated man knows the Caspian is but a deep bay opening into the Ocean River to the north. Therefore you

could not go around it. So in trying to escape, you but mire yourself deeper in your own lies."

"Look here," said Aristotle. "You have proved nothing of the sort, O Attalos. Ever thince Herodotos there have been those who think the Cathpian a closed thea—"

"Hold your tongue, professor," said Attalos. "This is a matter of national security. There is something queer about this alleged Indian, and I mean to find out what it is."

"It is not queer that one who comes from unknown distant lands should tell a singular tale of his journey."

"No, there is more to it than that. I have learned that he first appeared in a tree top on the farm of the freeholder Diktys Pisandrou. Diktys remembers looking up into the tree for crows before he cast himself down under it to rest. If the Zandras had been in the tree, Diktys would have seen him, as it was not yet fully in leaf. The next instant there was the crash of a body falling into the branches, and Zandras's staff smote Diktys on the head. Normal mortal men do not fall out of the sky into trees."

"Perhaphth he flew from India. They have marvelous mechanisms there, he tells me," said Aristotle.

"If he survives our interrogation in Pella, perhaps he can make me a pair of wings," said Attalos. "Or better yet, a pair for my horse, so he shall emulate Pegasos. Meanwhile, seize and bind him, men!"

The soldiers moved. I did not dare submit for fear they would take my gun and leave me defenseless. I snatched up the hem of my tunic to get at my pistol. It took precious seconds to unsnap the safety strap, but I got the gun out before anybody laid a hand on me.

"Stand back or I will blast you with lightning!" I shouted, raising the gun.

Men of my own world, knowing how deadly such a weapon can be, would have given ground at the sight of it. But the Macedonians, never having seen one, merely stared at the device and came on. Attalos was one of the nearest.

I fired at him, then whirled and shot another soldier who was reaching out to seize me. The discharge of the gun produces a lightning-like flash and a sharp sound like a close clap of thunder. The Macedonians cried out, and Attalos fell with a wound in his thigh.

I turned again, looking for a way out of the circle of soldiers, while confused thoughts of taking one of their horses flashed through my head. A heavy blow in the flank staggered me. One of the soldiers had jabbed me with his spear, but my belt kept the weapon from piercing me. I shot at the man but missed him in my haste.

"Do not kill him!" screamed Aristotle.

Some of the soldiers backed up as if to flee; others poised their spears. They hesitated for the wink of an eye, either for fear of me or because Aristotle's command confused them. Ordinarily they would have ignored the philosopher and listened for

their general's orders, but Attalos was down on the grass and looking in amazement at the hole in his leg.

As one soldier dropped his spear and started to run, a blow on the head sent a flash of light through my skull and hurled me to the ground, nearly unconscious. A man behind me had swung his spear like a club and struck me on the pate with the shaft.

Before I could recover, they were all over me, raining kicks and blows. One wrenched the gun from my hand. I must have lost consciousness, for the next thing I remember is lying in the dirt while the soldiers tore off my tunic. Attalos stood over me with a bloody bandage around his leg, leaning on a soldier. He looked pale and frightened but resolute. The second man I had shot lay still.

"So that is where he keeps his infernal devices!" said Attalos, indicating my belt. "Take it off, men."

The soldiers struggled with the clasp of the belt until one impatiently sawed through the straps with his dagger. The gold in my money pouch brought cries of delight.

I struggled to get up, but a pair of soldiers knelt on my arms to keep me down. There was a continuous mumble of talk. Attalos, looking over the belt, said:

"He is too dangerous to live. Even stripped as he is, who knows but what he will soar into the air and escape by magic?"

"Do not kill him!" said Aristotle. "He has much valuable knowledge to impart."

"No knowledge is worth the safety of the kingdom."

"But the kingdom can benefit from his knowledge. Do you not agree?" Aristotle asked the Persian.

"Do not drag me into this, pray," said Artavazda. "It is no concern of mine."

"If he is a danger to Makedonia, he should be destroyed at once," said Attalos.

"There is but little chance of his doing harm now," said Aristotle, "and an excellent chance of his doing us good."

"Any chance of his doing harm is too much," said Attalos. "You philosophers can afford to be tolerant of interesting strangers, but if they carry disaster in their baggage it is on us poor soldiers that the brunt will fall. Is it not so, Artabazos?"

"I have done what you asked and will say no more," said Artavazda. "I am but a simple-minded Persian nobleman who does not understand your Greek subtleties."

"I can increase the might of your armies, general!" I cried to Attalos.

"No doubt, and no doubt you can also turn men to stone with an incantation, as the Gorgons did with their glance." He drew his sword and felt the edge with his thumb.

"You will thlay him for mere thuperstition!" wailed Aristotle, wringing his hands. "At least let the king judge the matter."

"Not superstition," said Attalos; "murder." He pointed to the dead soldier.

"I come from another world! Another age!" I yelled, but Attalos was not to be diverted.

"Let us get this over with," he said. "Set him on his knees, men. Take my sword,



Glaukos; I am too unsteady to wield it. Now bow your head, my dear barbarian, and—”

In the middle of Attalos's sentence, he and the others and all my surroundings vanished. Again there came that sharp pain and sense of being jerked by a monstrous catapult.

I found myself lying in leaf-mold with the pearl-gray trunks of poplars all around me. A brisk breeze was making the poplar-leaves flutter and show their silvery bottoms. It was too cool for a man who was naked save for sandals and socks.

I had snapped back to the year 1981 of the calendar of my world, which I had set out from. But where was I? I should be near the site of the Brookhaven National Laboratories in a vastly improved super-scientific world. But there was no sign of super-science here; nothing but poplar trees.

I got up, groaning, and looked around. I was covered with bruises and bleeding from nose and mouth.

The only way I had of orienting myself was the boom of a distant surf. Shivering, I hobbled towards the sound. After a few hundred paces I came out of the forest on a beach. This beach could be the shore of Sewanhaki, or Long Island as we called it, but there was no good way of telling. There was no sign of human life; just the beach curving into the distance and disappearing around headlands, with the poplar forest on one side and the ocean on the other.

What, I wondered, had happened? Had science advanced so fast as a result of my intervention that man had already exterminated himself by scientific warfare? Thinkers of my world had concerned themselves with this possibility, but I had never taken it seriously.

It began to rain. In despair I cast myself down on the sand and beat it with my fists. I may have lost consciousness again.

At any rate, the next thing I knew was the now-familiar sound of hoofs. When I looked up, the horseman was almost upon me, for the sand had muffled the animal's hoofbeats until it was quite close.

I blinked with incredulity. For an instant I thought I must be back in the Classical era still. The man was a warrior armed and armored in a style much like that of ancient times. At first he seemed to be wearing a helmet of Classical Hellenic type. When he came closer I saw that this was not quite true, for the crest was made of feathers instead of horsehair. The nasal and cheek-plates hid most of his face, but he seemed dark and beardless. He wore a shirt of scalemail, long leather trousers, and low shoes. He had a bow and a small shield hung from his saddle and a slender lance slung across his back by a strap. I saw that this could not be ancient times because the horse was fitted with a large, well-molded saddle and stirrups.

As I watched the man stupidly, he whisked the lance out of its boot. He spoke in an unknown language.

I got up, holding my hands over my head in surrender. The man kept repeating his question, louder and louder, and making jabbing motions. All I could say was "I don't understand" in the languages I knew, none of which seemed familiar to him.

Finally he maneuvered his horse around to the other side of me, barked a command, pointed along the beach the way he had come, and prodded me with the butt of the lance. Off I limped, with rain, blood, and tears running down my hide.

You know the rest, more or less. Since I could not give an intelligible account of myself, the Sachim of Lenape, Wayotan the Fat, claimed me as a slave. For fourteen years I labored on his estate at such occupations as feeding hogs and chopping kindling. When Wayotan died and the present Sachim was elected, he decided I was too old for that kind of work, especially as I was half crippled from the beatings of Wayotan and his overseers. Learning that I had some knowledge of letters—for I had picked up spoken and written Algonkian in spite of my wretched lot—he freed me and made me official librarian.

In theory I can travel about as I like, but I have done little of it. I am too old and weak for the rigors of travel in this world, and most other places are, as nearly as I can determine, about as barbarous as this one. Besides, a few Lenapes come to hear me lecture on the nature of man and the universe and the virtues of the scientific method. Perhaps I can light a small spark here after I failed in the year 340 B.C.

When I went to work in the library, my first thought was to find out what had happened to bring the world to its present pass.

Wayotan's predecessor had collected a considerable library which Wayotan had neglected, so that some of the books had been chewed by rats and others ruined by dampness. Still, there was enough to give me a good sampling of the literature of this world, from ancient to modern times. There were even Herodotos's history and Plato's dialogues, identical with the versions that existed in my own world.

I had to struggle against more language barriers, as the European languages of this world are different from, though related to, those of my own world. The English of today, for instance, is more like the Dutch of my own world, as a result of England's never having been conquered by the Normans. I also had the difficulty of reading without eyeglasses. Luckily most of these manuscript books are written in a large, clear hand. A couple of years ago I did get a pair of glasses, imported from China, where the invention of the printing press has stimulated their manufacture. But, as they are a recent invention in this world, they are not so effective as those of mine.

I rushed through all the history books to find out when and how your history diverged from mine. I found that differences appeared quite early. Alexander still marched to the Indus but failed to die at thirty-two on his return. In fact he lived fifteen years longer and fell at last in battle with the Sarmatians in the Caucasus Mountains. I do not know why that brief contact with me enabled him to avoid the malaria-mosquito that slew him in my world. Maybe I aroused in him a keener interest

in India than he would otherwise have had, leading him to stay there longer so that all his subsequent schedules were changed. His empire held together for most of a century instead of breaking up right after his death as it did in my world.

The Romans still conquered the whole Mediterranean, but the course of their conquests and the names of the prominent Romans were all different. Two of the chief religions of my world, Christianity and Islam, never appeared at all. Instead we have Mithraism, Odinism, and Soterism, the last an Egypto-Hellenic synthesis founded by that fiery Egyptian prophet whose followers call him by the Greek word for "savior."

Still, Classical history followed the same *general* course that it had in my world, even though the actors bore other names. The Roman Empire broke up, as it did in my world, though the details are all different, with a Hunnish emperor ruling in Rome and a Gothic one in Antioch.

It is after the fall of the Roman Empire that profound differences appear. In my world there was a revival of learning that began about nine hundred years ago, followed by a scientific revolution beginning four centuries later. In your history the revival of learning was centuries later, and the scientific revolution has hardly begun. Failure to develop the compass and the full-rigged ship resulted in North America's—I mean Hesperia's—being discovered and settled via the northern route, by way of Iceland, and more slowly than in my world. Failure to invent the gun meant that the natives of Hesperia were not swept aside by the invading Europeans, but held their own against them and gradually learned their arts of iron-working, weaving, cereal-growing, and the like. Now most of the European settlements have been assimilated, though the ruling families of the Abnakis and Mohegans frequently have blue eyes and still call themselves by names like "Sven" and "Eric."

I was eager to get hold of a work by Aristotle, to see what effect I had had on him and to try to relate this effect to the subsequent course of history. From allusions in some of the works in this library I gathered that many of his writings had come down to modern times, though the titles all seemed different from those of his surviving works in my world. The only actual samples of his writings in the library were three essays, "Of Justice," "On Education," and "Of Passions and Anger." None of these showed my influence.

I had struggled through most of the Sachim's collection when I found the key I was looking for. This was an Iberic translation of "Lives of the Great Philosophers," by one Diomedes of Mazaka. I never heard of Diomedes in the literary history of my own world, and perhaps he never existed. Anyway, he had a long chapter on Aristotle, in which appears the following section:

"Now Aristotle, during his sojourn at Mitylene, had been an assiduous student of natural sciences. He had planned, according to Timotheus, a series of works which should correct the errors of Empedokles, Demokritos, and others of his predecessors.

But after he had removed to Macedonia and busied himself with the education of Alexander, there one day appeared before him a traveler, Sandos of Palibothra, a mighty philosopher of India. The Indian ridiculed Aristotle's attempts at scientific research, saying that in his land these investigations had gone far beyond anything the Hellenes had attempted, and the Indians were still a long way from arriving at satisfactory explanations of the universe. Moreover he asserted that no real progress could be made in natural philosophy unless the Hellenes abandoned their disdain for physical labor and undertook exhaustive experiments with mechanical devices of the sort which cunning Egyptian and Asiatic craftsmen make.

"King Philip, hearing of the presence of this stranger in his land and fearing lest he be a spy sent by some foreign power to harm or corrupt the young prince, came with soldiers to arrest him. But when he demanded that Sandos accompany him back to Pella, the latter struck dead with thunderbolts all the king's soldiers that were with him. Then, it is said, mounting into his chariot drawn by winged gryphons, he flew off in the direction of India. But other authorities say that the man who came to arrest Sandos was Antipatros, the regent, and that Sandos cast darkness before the eyes of Antipatros and Aristotle, and when they recovered he had vanished.

"Aristotle, reproached by the king for harboring so dangerous a visitor and shocked by the sanguinary ending of the Indian's visit, resolved to have no more to do with the sciences. For, as he explains in his celebrated treatise 'On the Folly of Natural Science,' there are three reasons why no good Hellene should trouble his mind with such matters. One is that the number of facts which must be mastered before sound theories are possible is so vast that if all the Hellenes did nothing else for centuries, they would still not gather the amount of data required. The task is therefore futile. Secondly, experiments and mechanical inventions are necessary to progress in science, and such work, though all very well for slavish Asiatics, who have a natural bent for it, is beneath the dignity of a Hellenic gentleman. And lastly, some of the barbarians have already surpassed the Hellenes in this activity, wherefore it ill becomes the Hellenes to compete with their inferiors in skills at which the latter have an inborn advantage. They should rather cultivate personal rectitude, patriotic valor, political rationality, and aesthetic sensitivity, leaving to the barbarians such artificial aids to the good and virtuous life as are provided by scientific discoveries.

This was it, all right. The author had gotten some of his facts wrong, but that was to be expected from an ancient historian.

So! My teachings had been too successful. I had so well shattered the naïve self-confidence of the Hellenic philosophers as to discourage them from going on with science at all. I should have remembered that glittering theories and sweeping generalizations, even when wrong, are the frosting on the cake; they are the carrot that makes the donkey go. The possibility of pronouncing such universals in the stimulus that keeps many scientists grinding away, year after year, at the accumulation of facts,

even seemingly dull and trivial facts. If ancient scientists had realized how much laborious fact-finding lay ahead of them before sound theories would become possible, they would have been so appalled as to drop science altogether. And that is just what happened.

The sharpest irony of all was that I had placed myself where I could not undo my handiwork. If I had ended up in a scientifically advanced world, and did not like what I found, I might have built another time machine, gone back, and somehow warned myself of the mistake lying in wait for me. But such a project is out of the question in a backward world like this one, where seamless columbium tubing, for instance, is not even thought of. All I proved by my disastrous adventure is that space-time has a negative curvature, and who in this world cares about that?

You recall, when you were last here, asking me the meaning of a motto in my native language on the wall of my cell. I said I would tell you in connection with my whole fantastic story. The motto says: "Leave Well Enough Alone," and I wish I had.

Cordially yours,

*Sherman Weaver.* ■

# STEEL BROTHER

Gordon R. Dickson

*Like all my stories and novels, "Steel Brother" was a separate and deliberate laboratory experiment, looking toward elements and story-making techniques I would use in the Childe Cycle. Those who are interested in checking such connections can see what I first tried out here in the way of an individual alone with his personal inner devil, not only in the later Cycle books, but in Wolfling and, above all, Time Storm.*

"...MAN THAT IS BORN of woman hath but a short time to live and is full of misery. He cometh up and is cut down, like a flower; he fleeth as it were a shadow and never continueth in one stay—"

The voice of the chaplain was small and sharp in the thin air, intoning the words of the burial service above the temporary lectern set up just inside the transparent wall of the landing field dome. Through the double transparencies of the dome and the plastic cover of the burial rocket the black-clad ranks could see the body of the dead stationman, Ted Waskewicz, lying back comfortably at an angle of forty-five degrees, peaceful in death, waxily perfect from the hands of the embalmers, and immobile. The eyes were closed, the cheerful, heavy features still held their expression of thoughtless dominance, as though death had been a minor incident, easily shrugged off; and the battle star made a single blaze of color on the tunic of the black uniform.

"Amen." The response was a deep bass utterance from the assembled men, like the single note of an organ. In the front rank of the Cadets, Thomas Jordan's lips moved stiffly with the others', his voice joining mechanically in their chorus. For this was the moment of his triumph, but in spite of it, the old, old fear had come back, the old sense of loneliness and loss and terror of his own inadequacy.

He stood at stiff attention, eyes to the front, trying to lose himself in the unanimity of his classmates, to shut out the voice of the chaplain and the memory it evoked of an alien raid on an undefended city and of home and parents swept away from him in a breath. He remembered the mass burial service read over the shattered ruin of the city; and the government agency that had taken him—a ten-year-old orphan—and given him care and training until this day, but could not give him what these others about him had by natural right—the courage of those who had matured in safety.

For he had been lonely and afraid since that day. Untouched by bomb or shell, he had yet been crippled deep inside of him. He had seen the enemy in his strength and run screaming from his spacesuited gangs. And what could give Thomas Jordan back his soul after that?

But still he stood rigidly at attention, as a Guardsman should; for he was a soldier now, and this was part of his duty.

The chaplain's voice droned to a halt. He closed his prayerbook and stepped back from the lectern. The captain of the training ship took his place.

"In accordance with the conventions of the Frontier Force," he said, crisply, "I now commit the ashes of Station Commandant First Class, Theodore Waskewicz, to the keeping of time and space."

He pressed a button on the lectern. Beyond the dome, white fire blossomed out from the tail of the burial rocket, heating the asteroid rock to temporary incandescence. For a moment it hung there, spewing flame. Then it rose, at first slowly, then quickly, and was gone, sketching a fiery path out and away, until, at almost the limits of human sight, it vanished in a sudden, silent explosion of brilliant light.

Around Jordan, the black-clad ranks relaxed. Not by any physical movement, but with an indefinable breaking of nervous tension, they settled themselves for the more prosaic conclusion of the ceremony. The relaxation reached even to the captain, for he about-faced with a relieved snap and spoke to the ranks.

"Cadet Thomas Jordan. Front and center."

The command struck Jordan with an icy shock. As long as the burial service had been in progress, he had had the protection of anonymity among his classmates around him. Now, the captain's voice was a knife, cutting him off, finally and irrevocably from the one security his life had known, leaving him naked and exposed. A despairing numbness seized him. His reflexes took over, moving his body like a robot. One step forward, a right face, down to the end of the row of silent men, a left face, three steps forward. Halt. Salute.

"Cadet Thomas Jordan reporting, sir."

"Cadet Thomas Jordan, I hereby invest you with command of this Frontier Station. You will hold it until relieved. Under no conditions will you enter into communications with an enemy nor allow any creature or vessel to pass through your sector of space from Outside."

"Yes, sir."

"In consideration of the duties and responsibilities requisite on assuming command of this Station, you are promoted to the rank and title of Station Commandant Third Class."

"Thank you, sir."

From the lectern the captain lifted a cap of silver wire mesh and placed it on his head. It clipped on to the electrodes already buried in his skull, with a snap that sent sound ringing through his skull. For a second, a sheet of lightning flashed in front of his eyes and he seemed to feel the weight of the memory bank already pressing on his mind. Then lightning and pressure vanished together to show him the captain offering his hand.

"My congratulations, Commandant."

"Thank you, sir."

They shook hands, the captain's grip quick, nervous and perfunctory. He took one abrupt step backward and transferred his attention to his second in command.

"Lieutenant! Dismiss the formation!"

It was over. The new rank locked itself around Jordan, sealing up the fear and loneliness inside him. Without listening to the barked commands that no longer concerned him, he turned on his heel and strode over to take up his position by the sally port of the training ship. He stood formally at attention beside it, feeling the weight of his new authority like a heavy cloak on his thin shoulders. At one stroke he had become the ranking officer present. The officers—even the captain—were nominally under his authority, so long as their ship remained grounded at his Station. So rigidly



he stood at attention that not even the slightest tremor of the trembling inside him escaped to quiver betrayingly in his body.

They came toward him in a loose, dark mass that resolved itself into a single file just beyond saluting distance. Singly, they went past him and up the ladder into the sally port, each saluting him as they passed. He returned the salutes stiffly, mechanically, walled off from these classmates of six years by the barrier of his new command. It was a moment when a smile or a casual handshake would have meant more than a little. But protocol had stripped him of the right to familiarity; and it was a line of black-uniformed strangers that now filed slowly past. His place was already established and theirs was yet to be. They had nothing in common any more.

The last of the men went past him up the ladder and were lost to view through the black circle of the sally port. The heavy steel plug swung slowly to behind them. He turned and made his way to the unfamiliar but well-known field control panel in the main control room of the Station. A light glowed redly on the communications board. He thumbed a switch and spoke into a grille set in the panel.

"Station to Ship. Go ahead."

Overhead the loudspeaker answered.

"Ship to Station. Ready for take-off."

His fingers went swiftly over the panel. Outside, the atmosphere of the field was evacuated and the dome slid back. Tractor mechs scurried out from the pit, under remote control, clamped huge magnetic fists on the ship, swung it into launching position, then retreated.

Jordan spoke again into the grille.

"Station clear. Take-off at will."

"Thank you, Station." He recognized the captain's voice. "And good luck."

Outside the ship lifted, at first slowly, then faster on its pillar of flame, and dwindled away into the darkness of space. Automatically, he closed the dome and pumped the air back in.

He was turning away from the control panel, bracing himself against the moment of finding himself completely isolated, when, with a sudden, curious shock, he noticed that there was another, smaller ship yet on the field.

For a moment he stared at it blankly, uncomprehendingly. Then memory returned and he realized that the ship was a small courier vessel from Intelligence, which had been hidden by the huge bulk of the training ship. Its officer would still be below, cutting a record tape of the former commandant's last memories for the file at Headquarters. The memory lifted him momentarily from the morass of his emotions to attention to duty. He turned from the panel and went below.

In the triply armored basement of the Station, the man from Intelligence was half in and half out of the memory bank when he arrived, having cut away a portion of the steel casing around the bank so as to connect his recorder direct to the cells. The

sight of the heavy mount of steel with the ragged incision in one side, squatting like a wounded monster, struck Jordan unpleasantly; but he smoothed the emotion from his face and walked firmly to the bank. His footsteps rang on the metal floor; and the man from Intelligence, hearing them, brought his head momentarily outside the bank for a quick look.

"Hi!" he said, shortly, returning to his work. His voice continued from the interior of the bank with a friendly, hollow sound. "Congratulations, commandant."

"Thanks," answered Jordan, stiffly. He stood, somewhat ill at ease, uncertain of what was expected of him. When he hesitated; the voice from the bank continued.

"How does the cap feel?"

Jordan's hands went up instinctively to the mesh of silver wire on his head. It pushed back unyieldingly at his fingers, held firmly on the electrodes.

"Tight," he said.

The Intelligence man came crawling out of the bank, his recorder in one hand and thick loops of glassy tape in the other.

"They all do at first," he said, squatting down and feeding one end of the tape into a spring rewind spool. "In a couple of days you won't even be able to feel it up there."

"I suppose."

The Intelligence man looked up at him curiously.

"Nothing about it bothering you, is there?" he asked. "You look a little strained."

"Doesn't everybody when they first start out?"

"Sometimes," said the other, noncommittally. "Sometimes not. Don't hear a sort of humming, do you?"

"No."

"Feel any kind of pressure inside your head?"

"No."

"How about your eyes. See any spots or flashes in front of them?"

"No!" snapped Jordan.

"Take it easy," said the man from Intelligence. "This is my business."

"Sorry."

"That's all right. It's just that if there's anything wrong with you or the bank I want to know it." He rose from the rewind spool, which was now industriously gathering in the loose tape; and unclipping a pressure-torch from his belt, began resealing the aperture. "It's just that occasionally new officers have been hearing too many stories about the banks in Training School, and they're inclined to be jumpy."

"Stories?" said Jordan.

"Haven't you heard them?" answered the Intelligence man. "Stories of memory domination—stationmen driven insane by the memories of the men who had the Station before them. Catatonics whose minds have got lost in the past history of the bank;

or cases of memory replacement where the stationman has identified himself with the memories and personality of the man who preceded him."

"Oh, those," said Jordan. "I've heard them." He paused, and then, when the other did not go on: "What about them? Are they true?"

The Intelligence man turned from the half-resealed aperture and faced him squarely, torch in hand.

"Some," he said bluntly. "There's been a few cases like that, although there didn't have to be. Nobody's trying to sugar-coat the facts. The memory bank's nothing but a storehouse connected to you through your silver cap—a gadget to enable you not only to remember everything you ever do at the station, but also everything anybody else who ever ran the Station did. But there've been a few impressionable stationmen who've let themselves get the notion that the memory bank's a sort of a coffin with living dead men crawling around inside it. When that happens, there's trouble."

He turned away from Jordan, back to his work.

"And that's what you thought was the trouble with me," said Jordan, speaking to his back.

The man from Intelligence chuckled—it was an amazingly human sound.

"In my line, fellà," he said, "we check all possibilities." He finished his resealing and turned around.

"No hard feelings?" he said.

Jordan shook his head. "Of course not."

"Then I'll be getting along." He bent over and picked up the spool, which had by now neatly wound up all the tape, straightened up and headed for the ramp that led up from the basement to the landing field. Jordan fell into step beside him.

"You've nothing more to do, then?" he asked.

"Just my reports. But I can write those on the way back." They went up the ramp and out through the lock on to the field.

"They did a good job of repairing the battle damage," he went on, looking around the Station.

"I guess they did," said Jordan. The two men paced soberly to the sally port of the Intelligence ship. "Well, so long."

"So long," answered the man from Intelligence, activating the sally port mechanism. The outer-lock swung open and he hopped the few feet up to the opening without waiting for the little ladder to wind itself out. "See you in six months."

He turned to Jordan and gave him a casual, offhand salute with the hand holding the wind-up spool. Jordan returned it with training-school precision. The port swung closed.

He went back to the master control room and the ritual of seeing the ship off. He stood looking out for a long time after it had vanished, then turned from the panel with a sigh to find himself at last completely alone.

\* \* \*

He looked about the Station. For the next six months this would be his home. Then for another six months he would be free on leave while the Station was rotated out of the line in its regular order for repair, reconditioning, and improvements.

If he lived that long.

The fear, which had been driven a little distance away by his conversation with the man from Intelligence, came back.

If he lived that long. He stood, bemused.

Back to his mind with the letter-perfect recall of the memory bank came the words of the other. Catatonic—cases of memory replacement. Memory domination. Had those others, too, had more than they could bear of fear and anticipation?

And with that thought came a suggestion that coiled like a snake in his mind. That would be a way out. What if they came, the alien invaders, and Thomas Jordan was no longer here to meet them? What if only the catatonic hulk of a man was left? What if they came and a man was here, but that man called himself and knew himself only as—

*Waskewicz!*

"No!" the cry came involuntarily from his lips; and he came to himself with his face contorted and his hands half-extended in front of him in the attitude of one who wards off a ghost. He shook his head to shake the vile suggestion from his brain; and leaned back, panting, against the control panel.

Not that. Not ever that. He had surprised in himself a weakness that turned him sick with horror. Win or lose; live or die. But as Jordan—not as any other.

He lit a cigarette with trembling fingers. So—it was over now and he was safe. He had caught it in time. He had his warning. Unknown to him—all this time—the seeds of memory domination must have been lying waiting within him. But now he knew they were there, he knew what measures to take. The danger lay in Waskewicz's memories. He would shut his mind off from them—would fight the Station without the benefit of their experience. The first stationmen on the line had done without the aid of a memory bank and so could he.

So.

He had settled it. He flicked on the viewing screens and stood opposite them, very straight and correct in the middle of his Station, looking out at the dots that were his forty-five doggie mechs spread out on guard over a million kilometers of space, looking at the controls that would enable him to throw their blunt, terrible, mechanical bodies into battle with the enemy, looking and waiting, waiting for the courage that comes from having faced squarely a situation, to rise within him and take possession of him, putting an end to all fears and doubtings.

And he waited so for a long time, but it did not come.

The weeks went swiftly by; and that was as it should be. He had been told what to expect, during training; and it was as it should be that these first months should

be tense ones, with a part of him always stiff and waiting for the alarm bell that would mean a doggie signaling sight of an enemy. It was as it should be that he should pause, suddenly, in the midst of a meal with his fork halfway to his mouth, waiting and expecting momentarily to be summoned; that he should wake unexpectedly in the nighttime and lie rigid and tense, eyes fixed on the shadowy ceiling and listening. Later—they had said in training—after you have become used to the Station, this constant tension will relax and you will be left at ease, with only one little unobtrusive corner of your mind unnoticed but forever alert. This will come with time, they said.

So he waited for it, waited for the release of the coiled springs inside him and the time when the feel of the Station would be comfortable and friendly about him. When he had first been left alone, he had thought to himself that surely, in his case, the waiting would not be more than a matter of days; then, as the days went by and he still lived in a state of hair-trigger sensitivity, he had given himself, in his own mind, a couple of weeks—then a month.

But now a month and more than a month had gone without relaxation coming to him; and the strain was beginning to show in nervousness of his hands and the dark circles under his eyes. He found it impossible to sit still, either to read or to listen to the music that was available in the Station library. He roamed restlessly, endlessly checking and rechecking the empty space that his doggies' viewers revealed.

For the recollection of Waskewicz as he lay in the burial rocket would not go from him. And that was not as it should be.

He could, and did, refuse to recall the memories of Waskewicz that he had never experienced; but his own personal recollections were not easy to control and slipped into his mind when he was unaware. All else that he could do to lay the ghost, he had done. He had combed the Station carefully, seeking out the little adjustments and conveniences that a lonely man will make about his home, and removed them, even when the removal meant a loss of personal comfort. He had locked his mind securely to the storehouse of the memory bank, striving to hold himself isolated from the other's memories until familiarity and association should bring him to the point where he instinctively felt that the Station was *his* and not the other's. And, whenever thoughts of Waskewicz entered in spite of all these precautions, he had dismissed them sternly, telling himself that his predecessor was not worth the considering.

But the other's ghost remained; intangible and invulnerable, as if locked in the very metal of the walls and floor and ceiling of the Station; and rising to haunt him with the memories of the training school tales and the ominous words of the man from Intelligence. At such times, when the ghost had seized him, he would stand paralyzed, staring in hypnotic fascination at the screens with their silent mechanical sentinels, or at the cold steel of the memory bank, crouching like some brooding monster, fear feeding on his thoughts—until, with a sudden, wrenching effort of the will, he broke free of the mesmerism and flung himself frantically into the duties of the Station, checking and rechecking his instruments and the space they watched, doing anything and everything to drown his wild emotions in the necessity for attention to duty.

And eventually he found himself almost hoping for a raid, for the test that would prove him, would lay the ghost, one way or another, once and for all.

It came at last, as he had known it would, during one of the rare moments when he had forgotten the imminence of danger. He had awakened in his bunk, at the beginning of the arbitrary ten-hour day, and lay there drowsily, comfortably, his thoughts vague and formless, like shadows in the depths of a lazy whirlpool, turning slowly, going no place.

*Then—the alarm!*

Overhead the shouting bell burst into life, jerking him from his bed. Its metal clangor poured out on the air, tumbling from the loudspeakers in every room all over the Station, strident with urgency, pregnant with disaster. It roared, it vibrated, it thundered, until the walls themselves threw it back, seeming to echo in sympathy, acquiring a voice of their own until the room rang—until the Station itself rang like one monster bell, calling him into battle.

He leaped to his feet and ran to the master control room. On the telltale high on the wall above the viewer screens, the red light of number thirty-eight doggie was flashing ominously. He threw himself into the operator's seat before it, slapping one palm hard down on the switch to disconnect the alarm.

*The Station is in contact with the enemy.*

The sudden silence slapped at him, taking his breath away. He gasped and shook his head like a man who had had a glassful of cold water thrown unexpectedly in his face; then plunged his fingers at the keys on the master control board in front of his seat—Up beams. Up detector screen, established now at forty thousand kilometers' distance. Switch on communications to Sector Headquarters.

The transmitter purred. Overhead, the white light flashed as it began to tick off its automatic signal. "Alert! Alert! Further data follows. Will report."

*Headquarters has been notified by Station.*

Activate viewing screen on doggie number thirty-eight.

He looked into the activated screen, into the vast arena of space over which the mechanical vision of that doggie mech was ranging. Far and far away at top magnification were five small dots, coming in fast on a course heading ten points below and of an angle of thirty-two degrees to the Station.

He flicked a key, releasing thirty-eight on-proximity fuse control and sending it plunging toward the dots. He scanned the Station area map for the positions of his other mechs. Thirty-nine was missing—in the Station for repair. The rest were available. He checked numbers forty through forty-five and thirty-seven through thirty to rendezvous on collision course with enemy at seventy-five thousand kilometers. Numbers twenty to thirty to rendezvous at fifty thousand kilometers.

*Primary defense has been inaugurated.*

He turned back to the screen. Number thirty-eight, expendable in the interests of

gaining information, was plunging toward the ships at top acceleration under strains no living flesh would have been able to endure. But as yet the size and type of the invaders was still hidden by distance. A white light flashed abruptly from the communications panel, announcing that Sector Headquarters was alerted and ready to talk. He cut in audio.

"Contact. Go ahead, Station J-49C3."

"Five ships," he said. "Beyond identification range. Coming in through thirty-eight at ten point thirty-two."

"Acknowledge." The voice of Headquarters was level, precise, emotionless. "Five ships—thirty-eight—ten—thirty-two. Patrol Twenty, passing through your area at four hours' distance, has been notified and will proceed to your station at once, arriving in four hours, plus or minus twenty minutes. Further assistance follows. Will stand by here for your future messages."

The white light went out and he turned away from the communications panel. On the screen, the five ships had still not grown to identifiable proportions, but for all practical purposes, the preliminaries were over. He had some fifteen minutes now during which everything that could be done, had been done.

*Primary defense has been completed.*

He turned away from the controls and walked back to the bedroom, where he dressed slowly and meticulously in full black uniform. He straightened his tunic, looking in the mirror, and stood gazing at himself for a long moment. Then, hesitantly, almost as if against his will, he reached out with one hand to a small gray box on a shelf beside the mirror, opened it, and took out the silver battle star that the next few hours would entitle him to wear.

It lay in his palm, the bright metal winking softly up at him under the reflection of the room lights and the small movements of his hand. The little cluster of diamonds in its center sparked and ran the whole gamut of their flashing colors. For several minutes he stood looking at it; then slowly, gently, he shut it back up in its box and went out, back to the control room.

On the screen, the ships were now large enough to be identified. They were medium-sized vessels, Jordan noticed, of the type used most by the most common species of raiders—that same race which had orphaned him. There could be no doubt about their intentions, as there sometimes was when some odd stranger chanced upon the Frontier, to be regretfully destroyed by men whose orders were to take no chances. No, these were *the enemy*, the strange, suicidal life form that thrust thousands of attacks yearly against the little human empire, who blew themselves up when captured and wasted a hundred ships for every one that broke through the guarding stations to descend on some unprotected city of an inner planet and loot it of equipment and machinery that the aliens were either unwilling or unable to build for themselves—a contradictory, little understood, and savage race. These five ships would make no attempt to parley.



But now, doggie number thirty-eight had been spotted and the white exhausts of guided missiles began to streak toward the viewing screen. For a few seconds, the little mech bucked and tossed, dodging, firing defensively, shooting down the missiles as they approached. But it was a hopeless fight against those odds and suddenly one of the streaks expanded to fill the screen with glaring light.

And the screen went blank. Thirty-eight was gone.

Suddenly realizing that he should have been covering with observation from one of the doggies further back, Jordan jumped to fill his screens. He brought the view from forty in on the one that thirty-eight had vacated and filled the two flanking screens with the view from thirty-seven on his left and twenty on his right. They showed his first line of defense already gathered at the seventy-five-thousand kilometer rendezvous and the fifty-thousand-kilometer rendezvous still forming.

The raiders were decelerating now, and on the wall, the telltale for the enemy's detectors flushed a sudden deep and angry purple as their invisible beams reached out and were baffled by the detector screen he had erected at a distance of forty thousand kilometers in front of the Station. They continued to decelerate, but the blockage of their detector beams had given them the approximate area of his Station; and they corrected course, swinging in until they were no more than two points and ten degrees in error. Jordan, his nervous fingers trembling slightly on the keys, stretched thirty-seven through thirty out in depth and sent forty through forty-five forward on a five-degree sweep to attempt a circling movement.

The five dark ships of the raiders, recognizing his intention, fell out of their single-file approach formation to spread out and take a formation in open echelon. They were already firing on the advancing doggies, and tiny streaks of light tattooed the black of space around numbers forty through forty-five.

Jordan drew a deep and ragged breath and leaned back in his control seat. For the moment there was nothing for his busy fingers to do among the control keys. His thirties must wait until the enemy came to them; since, with modern automatic gunnery, the body at rest had an advantage over the body in motion. And it would be some minutes before the forties would be in attack position. He fumbled for a cigarette, keeping his eyes on the screens, remembering the caution in the training manuals against relaxation once contact with the enemy had been made.

But reaction was setting in.

From the first wild ringing command of the alarm until the present moment, he had reacted automatically, with perfection and precision, as the drills had schooled him; as the training manuals had impressed upon him. The enemy had appeared. He had taken measures for defense against them. All that could have been done had been done; and he knew he had done it properly. And the enemy had done what he had been told they would do.

He was struck, suddenly, with the deep quivering realization of the truth in the



manual's predictions. It was so, then. These inimical others, these alien foes, were also bound by the physical laws. They, as well as he, could move only within the rules of time and space. They were shorn of their mystery and brought down to his level. Different and awful they might be, but their capabilities were limited, even as his; and in a combat such as the one now shaping up, their inhumanness was of no account, for the inflexible realities of the universe weighed impartially on him and them alike.

And with this realization, for the first time, the old remembered fear began to fall away like a discarded garment. A tingle ran through him and he found himself warming to the fight as his forefathers had warmed before him away back to the days when man was young and the tiger roared in the cool, damp jungle-dawn of long ago. The blood-instinct was in him; that was something of the fierce, vengeful joy with which a hunted creature turns at last on its pursuer. He would win. Of course he would win. And in winning he would at one stroke pay off the debt of blood and fear which the enemy had held against him these fifteen years.

Thinking in this way, he leaned back in his seat and the old memory of the shattered city and of himself running, running, rose up again around him. But this time it was no longer a prelude to terror, but fuel for the kindling of his rage. *These are my fear,* he thought, gazing unseeingly at the five ships in the screens *and I will destroy them.*

The phantasms of his memory faded like smoke around him. He dropped his cigarette into a disposal slot on the arm of his seat, and leaned forward to inspect the enemy positions.

They had spread out to force his forties to circle wide, and those doggies were now scattered, safe but ineffective, waiting further directions. What had been an open echelon formation of the raiders was now a ragged, widely dispersed line, with far too much space between ships to allow each to cover his neighbor.

For a moment Jordan was puzzled; and a tiny surge of fear of the unexplicable rippled across the calm surface of his mind. Then his brow smoothed out. There was no need to get panicky. The aliens' maneuver was not the mysterious tactic he had half-expected it to be; but just what it appeared, a rather obvious and somewhat stupid move to avoid the flanking movement he had been attempting with his forties. Stupid—because the foolish aliens had now rendered themselves vulnerable to interspersal by his thirties.

It was good news, rather than bad, and his spirits leaped another notch.

He ignored the baffled forties, circling automatically on safety control just beyond the ships' effective aiming range; and turned to the thirties, sending them plunging toward the empty areas between ships as you might interlace the fingers of one hand with another. Between any two ships there would be a dead spot—a position where a mech could not be fired on by either vessel without also aiming at its right- or left-hand companion. If two or more doggies could be brought safely to that spot, they could turn and pour down the open lanes on proximity control, their fuses primed, their bomb loads activated, blind bull-dogs of destruction.

One third, at least, should in this way get through the defensive shelling of the ships and track their dodging prey to the atomic flare of a grim meeting.

Smiling now in confidence, Jordan watched his mechs approach the ships. There was nothing the enemy could do. They could not now tighten up their formation without merely making themselves a more attractive target; and to disperse still further would negate any chance in the future of regaining a semblance of formation.

Carefully, his fingers played over the keys, gentling his mechs into line so that they would come as close as possible to hitting their dead spots simultaneously. The ships came on.

Closer the raiders came, and closer. And then—bare seconds away from contact with the line of approaching doggies, white fire ravened in unison from their stern tubes, making each ship suddenly a black nugget in the center of a blossom of flame. In unison, they spurted forward, in sudden and unexpected movement, bringing their dead spots to and past the line of seeking doggies, leaving them behind.

Caught for a second in stunned surprise, Jordan sat dumb and motionless, staring at the screen. Then, swift in his anger, his hands flashed out over the keys, blasting his mechs to a cruel, shuddering halt, straining their metal sinews for the quickest and most abrupt about face and return. This time he would catch them from behind. This time, going in the same direction as the ships, the mechs could not be dodged. For what living thing would endure equal strains with cold metal?

But there was no second attempt on the part of the thirties, for as each bucked to its savage halt, the rear weapons of the ships reached out in unison, and each of the blasting mechs, that had leaped forward so confidently, flared up and died like little candles in the dark.

Numb in the grip of icy failure, Jordan sat still, a ramrod figure staring at the two screens that spoke so eloquently of his disaster—and the one dead screen where the view from thirty-seven had been, that said nothing at all. Like a man in a dream, he reached out his right hand and cut in the final sentinel, the *watchdog*, that mech that circled closest to the Station. In one short breath his strong first line was gone, and the enemy rode, their strength undiminished, floating in toward his single line of twenties at fifty thousand with the defensive screen a mere ten thousand kilometers behind them.

Training was strong. Without hesitation his hands went out over the keys and the doggies of the twenties surged forward, trying for contact with the enemy in an area as far from the screen as possible. But, because they were moving in on an opponent relatively at rest, their courses were the more predictable on the enemy's calculators and the disadvantage was theirs. So it was that forty minutes later three ships of the alien rode clear and unthreatened in an area where two of their mates, the forties, and all of the thirties were gone.

The ships were, at this moment, fifteen thousand kilometers from the detector screen.

Jordan looked at his handiwork. The situation was obvious and the alternatives undeniable. He had twenty doggies remaining, but he had neither the time to move them up beyond the screen, nor the room to maneuver them in front of it. The only answer was to pull his screen back. But to pull the screen back would be to indicate, by its shrinkage and the direction of its withdrawal, the position of his Station clearly enough for the guided missiles of the enemy to seek him out; and once the Station was knocked out, the doggies were directionless, impotent.

Yet, if he did nothing, in a few minutes the ships would touch and penetrate the detector screen and his Station, the nerve center the aliens were seeking, would lie naked and revealed in their detectors.

He had lost. The alternatives totaled to the same answer, to defeat. In the inattention of a moment, in the smoke of a cigarette, the first blind surge of self-confidence and the thoughtless halting of his by-passed doggies that had allowed the ships' calculators to find them stationary for a second in a predictable area, he had failed. He had given away, in the error of his pride, the initial advantage. He had lost. Speak it softly, speak it gently, for his fault was the fault of one young and untried. He was defeated.

And in the case of defeat, the actions prescribed by the manual was stern and clear. The memory of the instructions tolled in his mind like the unvarying notes of a funeral bell.

*"When, in any conflict, the forces of the enemy have obtained a position advantage such that it is no longer possible to maintain the anonymity of the Station's position, the commandant of the Station is required to perform one final duty. Knowing that the Station will shortly be destroyed and that this will render all remaining mechs innocuous to enemy forces, the commandant is commanded to relinquish control of these mechs, and to place them with fuses primed on proximity control, in order that, even without the Station, they may be enabled to automatically pursue and attempt to destroy those forces of the enemy that approach within critical range of their proximity fuse."*

Jordan looked at his screens. Out at forty thousand kilometers, the detector screen was beginning to luminesce slightly as the detectors of the ships probed it at shorter range. To make the manual's order effective, it would have to be pulled back to at least half that distance; and there, while it would still hide the Station, it would give the enemy his approximate location. They would then fire blindly, but with cunning and increasing knowledge and it would be only a matter of time before they hit. After that—only the blind doggies, quivering, turning and trembling through all points of the stellar compass in their thoughtless hunger for prey. One or two of these might gain a revenge as the ships tried to slip past them and over the Line; but Jordan would not be there to know it.

But there was no alternative—even if duty had left him one. Like strangers, his hands rose from the board and stretched out over the keys that would turn the doggies

loose. His fingers dropped and rested upon them—light touch on smooth polished coolness.

But he could not press them down.

He sat with his arms outstretched, as if in supplication; like one of his primitive forebearers before some ancient altar of death. For his will had failed him and there was no denying now his guilt and his failure. For the battle had turned in his short few moments of inattention, and his underestimation of the enemy that had seduced him into halting his thirties without thinking. He knew; and through the memory bank—if that survived—the Force would know. In his neglect, in his refusal to avail himself of the experience of his predecessors, he was guilty.

And yet, he could not press the keys. He could not die properly—in the execution of his duty—the cold, correct phrase of the official reports. For a wild rebellion surged through his young body, an instinctive denial of the end that stared him so undeniably in the face. Through vein and sinew and nerve, it raced, opposing and blocking the dictates of training, the logical orders of his upper mind. It was too soon, it was not fair; he had not been given his chance to profit by experience. One more opportunity was all he needed, one more try to redeem himself.

But the rebellion passed and left him shaken, weak. There was no denying reality. And now, a new shame came to press upon him, for he thought of the three alien vessels breaking through, of another city in flaming ruins, and another child that would run screaming from his destroyers. The thought rose up in him, and he writhed internally, torn by his own indecisions. Why couldn't he act? It made no difference to him. What would justification and the redeeming of error mean to him after he was dead?

And he moaned a little, softly to himself, holding his hands outstretched above the keys, but could not press them down.

And then hope came. For suddenly, rising up out of the rubble of his mind came the memory of the Intelligence man's words once again, and his own near-pursuit of insanity. He, Jordan, could not bring himself to expose himself to the enemy, not even if the method of exposure meant possible protection for the Inner Worlds. But the man who had held this Station before him, who had died as he was about to die, must have been faced with the same necessity for self-sacrifice. And those last-minute memories of his decision would be in the memory bank, waiting for the evocation of Jordan's mind.

Here was hope at last. He would remember, would embrace the insanity he had shrunk from. He would remember and be Waskewicz, not Jordan. He would be Waskewicz and unafraid; though it was a shameful thing to do. Had there been one person, one memory among all living humans, whose image he could have evoked to place in opposition to the images of the three dark ships, he might have managed by himself. But there had been no one close to him since the day of the city raid.

His mind reached back into the memory bank, reached back to the last of Waskewicz's memories. He remembered.

Of the ten ships attacking, six were down. Their ashes strewed the void and the remaining four rode warily, spread widely apart for maximum safety, sure of victory, but wary of this hornet's nest which might still have some stings yet unexpended. But the detector screen was back to its minimum distance for effective concealment and only five doggies remained poised like blunt arrows behind it. He—Waskewicz—sat hunched before the control board, his thick and hairy hands lying softly on the proximity keys.

"Drift in," he said, speaking to the ships, which were cautiously approaching the screen. "Drift in, you. Drift!"

His lips were skinned back over his teeth in a grin—but he did not mean it. It was an automatic grimace, reflex to the tenseness of his waiting. He would lure them on until the last moment, draw them as close as possible to the automatic pursuit mechanisms of the remaining doggies, before pulling back the screen.

"Drift in," he said.

They drifted in. Behind the screen he aimed his doggies, pointing each one of four at a ship and the remaining one generally at them all. They drifted in.

They touched.

His fingers slapped the keys. The screen snapped back until it barely covered the waiting doggies. And the doggies stirred, on proximity, their pursuit mechs activated, now blind and terrible fully armed, ready to attack in senseless directness anything that came close enough.

And the first shells from the advancing ships began to probe the general area of the Station asteroid.

Waskewicz sighed, pushed himself back from the controls and stood up, turning away from the screens. It was over. Done. All finished. For a moment he stood irresolute; then, walking over to the dispenser on the wall, dialed for coffee and drew it, hot into a disposable cup. He lit a cigarette and stood waiting, smoking and drinking the coffee.

The Station rocked suddenly to the impact of a glancing hit on the asteroid. He staggered and slopped some coffee on his boots, but kept his feet. He took another gulp from the cup, another drag on the cigarette. The Station shook again, and the lights dimmed. He crumpled the cup and dropped it in the disposal slot. He dropped the cigarette on the steel floor, ground it beneath his boot sole; and walked back to the screen and leaned over it for a final look.

The lights went out. And memory ended.

The present returned to Jordan and he stared about him a trifle wildly. Then he felt hardness beneath his fingers and forced himself to look down.

The keys were depressed. The screen was back. The doggies were on proximity. He stared at his hand as if he had never known it before, shocked at its thinness and

the lack of soft down on its back. Then, slowly, fighting reluctant neck muscles, he forced himself to look up and into the viewing screen.

And the ships were there, but the ships were drawing away.

He stared, unable to believe his eyes, and half-ready to believe anything else. For the invaders had turned and the flames from their tails made it evident that they were making away into outer space at their maximum bearable acceleration, leaving him alone and unharmed. He shook his head to clear away the false vision from the screen before him, but it remained, denying its falseness. The miracle for which his instincts had held him in check had come—in the moment in which he had borrowed strength to deny it.

His eyes searched the screens in wonder. And then, far down in one corner of the watch dog's screen and so distant still that they showed only as pips on the wide expanse, he saw the shape of his miracle. Coming up from inside of the Line under maximum bearable acceleration were six gleaming fish-shapes that would dwarf his doggies to minnows—the battleships of Patrol Twenty. And he realized, with the dawning wonder of the reprieved, that the conflict, which had seemed so momentary while he was fighting it, had actually lasted the four hours necessary to bring the Patrol up to his aid.

The realization that he was now safe washed over him like a wave and he was conscious of a deep thankfulness swelling up within him. It swelled up and out, pushing aside the lonely fear and desperation of his last few minutes, filling him instead with a relief so all-encompassing and profound that there was no anger left in him and no hate—not even for the enemy. It was like being born again.

Above him on the communications panel, the white message light was blinking. He cut in on the speaker with a steady hand and the dispassionate, official voice of the Patrol sounded over his head.

“Patrol Twenty to Station. Twenty to Station. Come in Station. Are you all right?”

He pressed the transmitter key.

“Station to Twenty. Station to Twenty. No damage to report. The Station is unharmed.”

“Glad to hear it, Station. We will not pursue. We are decelerating now and will drop all ships on your field in half an hour. That is all.”

“Thank you, Twenty. The field will be clear and ready for you. Land at will. That is all.”

His hand fell away from the key and the message light winked out. In unconscious imitation of Waskewicz's memory he pushed himself back from the controls, stood up, turned and walked to the dispenser in the wall, where he dialed for and received a cup of coffee. He lit a cigarette and stood as the other had stood, smoking and drinking. He had won.

And reality came back to him with a rush.

For he looked down at his hand and saw the cup of coffee. He drew in on the

cigarette and felt the hot smoothness of it deep in his lungs. And terror took him twisting by the throat.

He had won? He had done nothing. The enemy ships had fled not from him, but from the Patrol; and it was Waskewicz, *Waskewicz*, who had taken the controls from his hands at the crucial moment. It was Waskewicz who had saved the day, not he. It was the memory bank. The memory bank and Waskewicz!

The control room rocked about him. He had been betrayed. Nothing was won. Nothing was conquered. It was no friend that had broken at last through his lonely shell to save him, but the mind-sucking figment of memory-domination sanity. The memory bank and Waskewicz had seized him in their grasp.

He threw the coffee container from him and made himself stand upright. He threw the cigarette down and ground it beneath his boot. White-hot, from the very depths of his being, a wild anger blazed and consumed him. *Puppet*, said the mocking voice of his conscience, whispering in his ear. *Puppet!*

*Dance, Puppet! Dance to the tune of the twitching strings!*

"No!" he yelled. And, borne on the white-hot tide of his rage, the all-consuming rage that burnt the last trace of fear from his heart like dross from the molten steel, he turned to face his tormentor, hurling his mind backward, back into the life of Waskewicz, prisoned in the memory bank.

Back through the swirling tide of memories he raced, hunting a point of contact, wanting only to come to grips with his predecessor, to stand face to face with Waskewicz. Surely, in all his years at the Station, the other must sometime have devoted a thought to the man who must come after him. Let Jordan just find that point, there where the influence was strongest, and settle the matter, for sanity or insanity, for shame or pride, once and for all.

"Hi, Brother!"

The friendly words splashed like cool water on the white blaze of his anger. He—Waskewicz—stood in front of the bedroom mirror and his face looked out at the man who was himself, and who yet was also Jordan.

"Hi, Brother!" he said. "Whoever and wherever you may be. Hi!"

Jordan looked out through the eyes of Waskewicz, at the reflected face of Waskewicz; and it was a friendly face, the face of a man like himself.

"This is what they don't tell you," said Waskewicz. "This is what they don't teach in training—the message that, sooner or later, every stationman leaves for the guy who comes after him.

"This is the creed of the Station. *You are not alone*. No matter what happens, *you are not alone*. Out on the rim of the empire, facing the unknown races and the endless depths of the universe, this is the one thing that will keep you from all harm. As long as you remember it, nothing can affect you, neither attack, nor defeat, nor death. Light a screen on your outermost doggie and turn the magnification up as far as it will

go. Away out at the limits of your vision you can see the doggie of another Station, of another man who holds the Line beside you. All along the Frontier, the Outpost Stations stand, forming a link of steel to guard the Inner Worlds and the little people there. They have their lives and you have yours; and yours is to stand on guard.

"It is not easy to stand on guard; and no man can face the universe alone. But—you are not alone! All those who at this moment keep the Line, are with you; and all that have ever kept the Line, as well. For this is our new immortality, we who guard the Frontier, that we do not stop with our deaths, but live on in the Station we have kept. We are in its screens, its controls, in its memory bank, in the very bone and sinew of its steel body. *We are the station*, your steel brother that fights and lives and dies with you and welcomes you at last to our kinship when for your personal self the light has gone out forever, and what was individual of you is nothing any more but cold ashes drifting in the eternity of space. *We are with you and of you, and you are not alone*. I, who was once Waskewicz, and am now part of the Station; leave this message for you, as it was left to me by the man who kept this guard before me, and as you will leave it in your turn to the man who follows you, and so on down the centuries until we have become an elder race and no longer need our shield of brains and steel.

*"Hi, Brother! You are not alone!"*

And so, when the six ships of Patrol Twenty came drifting in to their landing at the Station, the man who waited to greet them had more than the battle star on his chest to show he was a veteran. For he had done more than win a battle. He had found his soul. ■



# PANDORA'S PLANET

Christopher Anvil

*My experience of writing, before "Pandora's Planet," was a little like target practice at night in a rainstorm—while it might be possible to hit something now and then, by persistence or accident, some light was urgently needed. The editors were helpful. John Campbell, H. L. Gold, and Anthony Boucher, among others, from time to time offered questions, yet these rarely seemed clear at the time.*

*After "Pandora's Planet," my stories usually went first to Astounding Science Fiction, were often accepted and, if not, the objections were likely to be so clear that a second or third try might still do the job. —For whatever reason, it was the difference between more or less solid murk, and light.*

KLIDE HORSIP, PLANETARY INTEGRATOR, prided himself on being much more than a jailer. Each advance of the Integral Union meant more occupied planets, and each one of these planets, like a single tiny component in a giant magnet, must be brought into line with the rest. This was Klide Horsip's job, and he settled to it now with relish.

"Phase I is *complete*?" he insisted, emphasizing the word.

Brak Moffis, the Military Overseer, smiled ruefully. "Not quite as complete as it often is on these humanoid planets."

"Then give me a brief summary of the details," said Horsip. He cast a quick glance out the landing-boat's window at the curve of the blue and green world below. "Looks promising enough."

"Well," said Moffis, "as far as that goes, it is: It's a Centra-type planet, mean diameter about 0.8, with gravity, oxygen, and temperature ideally suited to human and humanoid life. The percentage of water surface is higher than on Centra—about seventy-five percent—but it's well distributed, and helps moderate the climate. There are plenty of minerals, including massive quantities of deep nickel-iron that hasn't yet been touched."

Horsip nodded. "And the inhabitants?"

"The usual types of plant and animal life—and, the humanoids."

"Ah, we come to the main point. What stage were the humanoids in when you landed?"

Brak Moffis looked at Horsip and gave a wry smile. "Technologically," said Moffis, "they were very near Centra 0.9, and in some areas higher."

"You aren't serious?"

The Military Overseer shook his head and looked away. "You wouldn't ask me that if you'd been in on the invasion. Perhaps you've heard of *Centralis II*?"

"The hell-planet! Who hasn't heard of it?" Horsip let his voice show impatience. "What of it?"

"Well," said Moffis, "that gives us ground for comparison. This was worse. Thirty percent of the Initial Landing Parties were vaporized the first day. Another fifty percent had their sites eliminated by the second day, and were pinned to the earth that day or the day after. The whole second wave had to funnel through the remaining twenty percent of sites in isolated regions, and of course that meant the natives retained effective control of the situation everywhere it counted. If you'll imagine yourself wrestling one of the giant snakes of Goa, you'll have a good idea of our position." He raised a hand as Horsip, frowning, started to speak. "Let me summarize. Thirty percent of our selected sites were eliminated; fifty percent were in desperate straits, and the remaining twenty percent were jampacked, overloaded, and only meant for secondary purposes in the first place. All this, mind you, despite the fact that the natives let off a couple of incomplete attacks on *each other* during the initial stages."

"Hysteria?" scowled Horsip.

"Regional rivalries," said Moffis.

"Well," said Horsip, "give the censorship another silver nova for efficiency. All I ever heard of this was that it was proceeding 'according to schedule.'"

"It was," said Moffis, "but it wasn't our schedule."

"I see," said Horsip, his face disapproving. "Well, what did you do?"

"Organized our established sites as fast as possible, and improvised new ones in chosen locations connecting the outer sites to form a defensive perimeter."

"Defensive!"

"That was what it boiled down to."

"What about the other sites—the fifty percent under attack?"

"We supplied them as well as we could. When we were built up enough, we started a heavy thrust to split the enemy—I mean, native-forces—and at the same time ordered a simultaneous break-out of the surrounded units toward common centers. The idea was to build up strong enough groups so they could fight their way to the perimeter."

"You were actually *giving up* the original sites?" Horsip looked at the Military Overseer with an expression of offended disbelief.

Moffis looked back coldly. "I'm telling you all this in detail so you'll understand it wasn't the usual matter of slaughtering a mink in a stall, and so you'll be ready in case *you* run into anything. I'm telling you we had a rough tossing-around in the beginning. Maybe you'll have a better idea when I tell you one of our northern groups of Initial Landing Parties ran into this routine:

"The natives vaporized the center of each site with a nuclear bomb, contained the troupes remaining in each site with minimum forces, then switched a heavy reserve from one Landing Party to the next, slaughtering them one after the other, in succession. This wasn't brilliance on their part; this was their usual level of performance."

Horsip swallowed and looked serious.

Moffis noted Horsip's reaction and nodded. "I'm no more used to being on the defensive than you are, and I can assure you I didn't enjoy a minute of it. But that's what we were up against. We managed to recover just one large group—about eighteen percent—of the original Landing Parties, then we pulled back into our perimeter under heavy attack. We had to bring the Fleet down into the atmosphere to get at their communications. At that the ships took losses of better than one-in-five despite the meteor guards. It was touch-and-go for three weeks, then we got the edge, and by the end of the month we had them hamstrung. Then we had some terrific fighting when we broke out of the defensive perimeter. But we won. At the end, we crushed them piecemeal."

"How long did this take?" asked Horsip.

"A hundred and twenty-seven of the planet's days," said Moffis. "Their day is roughly the same length as a day on Centra."

"I see," said Horsip, "and ten to twelve days is considered average."

"Averages don't count with something worse than *Centralis II*."

Horsip looked out at the planet, growing big as the landing boat swung closer. As he watched, he saw a region of pits and craters, a part of the globe that looked as if an angry giant had beat on it with a sledge hammer. He turned away, as if to change the subject.

"What," he asked, "do these humanoid natives look like?"

"A lot like us. They have a pair of anterior and a pair of posterior appendages, one head, and no functional tail. They walk upright, and have opposable thumbs on the anterior appendages."

"Any significant marking-differences?"

Moffis swallowed. "A few."

"Good," said Horsip, relaxing a bit. "That will save us the trouble of marking them." When Moffis remained quiet, Horsip turned impatiently. "Well, don't just sit there. Enumerate them. What are the differences?"

"A bigger skull," said Moffis, "with a larger brow and a less prominent nose. The females are practically hairless over the greater portion of their bodies, and so are the males, though in less degree."

"Very good," said Horsip, nodding approval. "What else?"

"The vestigial tail is almost completely absorbed. There's no visible stump at all. And the head is set more nearly erect on the body."

"Splendid! Yes, very good indeed." Horsip looked vastly pleased. "You realize the implications?"

"I don't see anything good about it," said Moffis.

"Oh, come, man," said Horsip. "You've had a difficult experience, but don't let it distort your values. This is a propitious start for Planetary Integration. These folk are self-marked, by nature. We'll have no mixed-race trouble here, nor any of the usual marking difficulties, either."

Horsip paused in thought, snapped his fingers and added, "For instance, look at the words that apply to these natives: big-headed, hairless, flat-nosed—"

"But they aren't flat-nosed."

"What does that matter? Didn't you say their noses were smaller?"

"Well, yes. But not flat."

Horsip waved his hand. "Never mind that. We'll call them flat-nosed. Now let's see. Big-headed, hairless, flat-nosed. Wasn't there another—"

"Tailless," supplied Moffis, without enthusiasm.

"Yes, *tailless*. Well"—Horsip leaned back, and a smile of creative enjoyment crossed his face—"we'll call them 'Puff-skulled, hairless, flat-nosed, lop-tails.' Let's see any of our rowdy young bloods try to mate with them after that!"

"They will," said Moffis tonelessly.

"But not officially," said Horsip. "And that's what counts." He looked down with

pleasurable anticipation at the planet grown large beneath them. He rubbed his hands. "Well," he said, "this is going to be pleasant work. A treat, Moffis."

Moffis shut his eyes as if to ease a pain.

"I hope so," he said.

A strong guard of heavily armed soldiers awaited them in the landing area, itself ringed by several formidable lines of spike-bar barriers, thickly sown with leaping-mine trip wires, and covered by deeply dug-in splat-gun emplacements.

Horsip looked the defenses over curiously as he walked with Moffis to a heavily armored ground-car. He noted that the soldiers carried out their orders readily enough, but without a certain verve usual on newly conquered planets. "Trouble?" he asked.

Moffis glanced around uneasily. "Roving bands," he said. "You think you've got them wiped out, and they pop up again somewhere else."

They got into the ground-car, an order was shouted outside, and the convoy began to move off. It wound out onto the road like a giant chuffing snake, moving jerkily as gaps opened and closed between vehicles. The going was bumpy till they got out onto the main road, then the cars moved smoothly along. At this stage, Horsip raised up to peer out a shuttered slit in the side of his vehicle. For a hundred yards back from the side of the road, the vegetation was a burnt black. He scowled.

Moffis read his thoughts. "Yes, clearing the roadside is an unusual precaution, but it's either that or get plastered with a can of inflammable liquid when you go by in the car."

"Such an unnecessary width might indicate fear to the natives."

Moffis suppressed a snort.

Horsip looked at him coldly. "Isn't that so?"

"Maybe," said Moffis. "And maybe it indicates fear to a molk when you put heavier bars on his stall. But the main idea is, not to get gored."

"We've already conquered these lop-tails."

"Some of them don't know it yet. That's the whole trouble."

"We won't convince them by acting frightened."

"We won't convince them by being dead, either."

Horsip looked at Moffis coldly. His heavy brows came together and he opened his mouth.

There was a dull boom from somewhere up ahead. Their car slowed suddenly, swerved, and then rolled forward so fast they were thrown hard back against the cushions. Something *spanged* against the side of the car. The snapping *whack* of a splat-gun sounded up ahead, was joined by others, and rose to a crescendo as they raced forward and passed to one side of the uproar. Acrid fumes momentarily filled the car, making Horsip cough and his eyes run. Somewhere in the background there was an unfamiliar hammering thud that jarred Horsip's nerves. There was another explosion, and another, now well to the rear. Then the car slowed with a loud squeal

from the machinery. Horsip was thrown forward, then slammed back hard as the car raced ahead again. As they settled into a fast steady run, he turned to Moffis with a thoughtful frown. "How much farther do we have to go?"

"We should be about a quarter of the way."

Horsip sat, pale and thoughtful, beside Moffis, who sat, pale and gloomy, all the way to Horsip's new headquarters.

The site of the new headquarters was not well chosen to convey the effect of untouchable superiority. The site consisted of a large, blackened mountain with a concrete tunnel entrance at the base. The mountain bristled with air-defense cannon, was pocked and lined with shellholes, trenches, bunkers, and spike-bar barriers. Around the tunnel entrance at the base, the barriers, cannon, and splat-gun emplacements were so thick as to excite ridicule. Horsip was about to comment on it when he noted a huge thing like a monster turtle some hundred-and-fifty yards from the entrance. He felt the hair on his neck, back, and shoulders bristle.

"What's that?"

Moffis peered out the slit. "One of the humanoids' traveling forts."

Horsip stared at the long thick cannon that pointed straight at the tunnel entrance. He swallowed. "Ah . . . is it disarmed?" The ground-car's armor plating suddenly seemed very thin. "It is, isn't it?"

Moffis said, "Not exactly. Our engineers are studying it."

"You don't mean the humanoids are still in *control* of it?"

"Oh, no," said Moffis. "The concussion from our bombardment apparently killed them. Our experts are *inside* it, trying to figure out the mechanism."

"Oh." Horsip, as his angle of view changed, saw an armored ground-car gradually come into sight, parked near the alien fort. He damned himself for his scare. Of *course*, the thing was disarmed. But he could not help noticing how ineffectual the ground-car looked beside it. He cleared his throat.

"How many of those, ah, 'moving forts' did the humanoids have?"

"Hundreds of them," said Moffis.

They rode in silence through the massive concrete entrance, and Horsip felt an unexpected sense of relief as the thick layer of earth, rock, and cement intervened between himself and the alien world. They rode downward for a long distance, then got out of the ground-car. Moffis showed Horsip around his new headquarters, which consisted of a large suite of rooms comfortably fitted out; several outer offices with files, clerks, and thick bound volumes of maps and data; and a private inner office paneled in dark wood, with Horsip's desk and chair on a raised dais, and a huge flag of Centra hanging behind it.

Horsip looked everything over in complete silence. Then he looked again around the private office at the desk, dais, and flag. He cleared his throat.

"Let's go into my suite. Do you have the time?"

"I suppose so," said Moffis gloomily. "There isn't a great deal I can do, anyway."

Horsip looked at him sharply, then led the way back to his suite. They sat down in a small study, then Horsip got up, scowling intently, and began to pace the floor. Moffis looked at him curiously.

"Moffis," said Horsip suddenly, "you haven't told me the whole story."

Moffis looked startled.

"Go on," said Horsip. "Let's have it."

"I've summarized—"

"You've left out pieces. Perhaps you've told me the facts and left out interpretations. We need it all." He faced Moffis and pinned him with his gaze.

"Well—" said Moffis, looking uncomfortable.

"You're my military deputy," said Horsip, his eyes never leaving Moffis. "You and I must work together, each supplying the other's lacks. The first rule of planetary integration is to apply the maximum available force, *in line with itself*. If you apply force in one direction, and I apply force in another direction, the result will be less than if we both apply force in the same direction. That can be proved.

"Now," he said, "you have had a difficult time. You hit with all your strength, and the blow was blunted. The natives showed considerable low cunning in using the brute force at their disposal. Because we are accustomed to swift victories, the slowness of your success discouraged you. I was somewhat surprised at the situation myself, at first.

"However," said Horsip, his voice swelling, "a molk is a molk no matter how many bars he kicks off his stall. He may put up a struggle. It may take twenty times as long as usual to strap his neck to the block and slam the ax through. But when he's dead, he's just as dead as if it was over in a minute. *Right?*"

"Truth," said Moffis, looking somewhat encouraged.

"All right," said Horsip, pacing. "Now, we've got this molk into the stall, but apparently we're having some little trouble getting his head in the straps. Now, we can't strap a molk in the dark, Moffis. The horns will get us if we try it. We've got to have light. You've got to light up the beast for me with the lantern of knowledge, Moffis, or I can't do my part. How about it?"

"Well," said Moffis, looking interested and sitting forward on the edge of his chair, "I'm willing, now you put it that way, but where should I start?"

"Start anywhere," said Horsip.

Moffis cleared his throat, and looked thoughtful.

"Well, for one thing," he said at last, "there's this piecemeal filing-down they're doing to us." He hesitated.

"Go on," prompted Horsip. "Talk freely. If it's important, tell me."

"Well," said Moffis, "it doesn't *seem* important. But take that trip from the landing boat to here. That wasn't a long trip, yet they knocked out at least one ground-car.

If it was the same as other trips like it, they would have put fifteen men out of action, and three ground cars, at least. Suppose we have three hundred men and fifty ground-cars we can spare as escort between here and the landing-boat place. Each time, they're likely to get hit once, at least. It seems like just a small battle. Not even a battle—just a brush with some die-hard natives.

"But in two trips, we've lost one man out of ten and one car out of eight."

Moffis paused, frowning. "And the worst of it is, we can't put it down. It's like a little cut that won't stop bleeding. If it just happened here, it would be bad enough. But it happens everywhere and anywhere that we don't have everything screwed down tight."

"But," said Horsip, "see here. Why don't you gather together five thousand men and scour that countryside clean? Then you'll have an end to that. Then, take those five thousand men and clean out the next place." He grew a little excited. "That's what they did to our landing parties, isn't it? Why not spring their own trap on them?"

Moffis looked thoughtful. "We tried something like that earlier, when all this started. But the wear on the ground cars was terrific. Moreover, they moved only a few scores of men, and we had to move thousands. It was wearing us out. Worse yet, as they only had small bands in action, we couldn't always find them. We'd end up with thousands of men milling around in a little field, and no humanoids. Then, from somewhere else, they'd fire into us." Moffis shivered. "We tried to bring the whole army to bear on them, but it was like trying to shoot insects with a cannon. It didn't work."

"Well," said Horsip, "that was too bad; but still, you had the right idea. But you overdid it."

"I wouldn't be surprised," said Moffis. "None of us were in very good form by then."

Horsip nodded. "But look here, take five thousand men, break them up into units of, say, five hundred each. Train the units to act alone or with others. Take six of the units, and send them to troubled places. Hold the other four in your hand, ready to put them here or there; as needed."

Moffis looked thoughtful. "It sounds good. But what if on their way to the trouble place, these men get fired on?"

Horsip suppressed a gesture of irritation. "Naturally, the five hundred would be split up into units. Say it was ten units of fifty men each. One fifty-man unit would clean out the nest of snakes, and the rest would go on. When they were finished, the unit that had stopped would go after the rest."

Moffis nodded. "Yes, it sounds good."

"What's wrong then?" demanded Horsip.

"The natives' stitching-gun," said Moffis dryly.

"The which?" said Horsip.

"Stitching-gun," said Moffis. "It has a single snout that the darts move into from



a traveling belt, like ground-cars on an assembly line. The snout spits them out one at a time and they work ruin on our men. If this five-hundred-man team you speak of was hit on the road, and just fifty men from it tried to beat the natives, we'd probably lose all fifty. The only way to win would be to stop the whole five hundred, and let the men fire at them from inside the ground-cars."

"But, listen," said Horsip. "Just how many natives would they be fighting?"

"Twenty, maybe."

Horsip did a mental calculation. "Then you mean one of their men is worth two to three of ours?"

"In this kind of fighting, yes."

Horsip made a howling sound in his throat, let out the beginning of a string of oaths and cut them off.

"I'm sorry," said Moffis. "I know how you feel."

"All right," said Horsip angrily, raising his hand and making gestures as if brushing away layers of gathering fog, "let's get back to this stitching-gun. It only shoots one dart at a time. How does that make it better than our splat-gun, that can shoot up to twenty-five darts at a time?"

"I don't understand it exactly," said Moffis, "but it has something to do with the way they fight. And then, too, the stitching-gun shoots the darts out *fast*. It shoots a *stream* of darts. If the first one misses, the humanoid moves the gun a little and maybe the *next* one strikes home. If not, he moves it a little more. This time, five or six darts hit our man and down he goes. Now the humanoid looks around for someone else and starts in on him. Meanwhile, another humanoid is feeding belts of darts into the gun—"

"But our splat-guns!" said Horsip exasperatedly. "What are *they* doing all this time?"

"They're heavy," said Moffis, "and it takes a little while to get them into action. Besides, the enemy . . . I mean, the humanoids . . . have had all night to set *their* gun up and hide it, and now they pick out their target at will. We have to stop the vehicles to go into action. And that isn't the worst, either."

"Now what?"

"The splat-gun operators can't see the enemy. I mean, the humanoids. They'll be dug in, and concealed. When the gunners do realize where they are, as likely as not the splat-guns can't get at them, because there is nothing but the snout of the stitching-gun to fire at. It's likely to be someone firing from inside the ground-cars that finally picks off the humanoids."

Horsip looked at Moffis thoughtfully. "Are there many more difficulties like this?"

"The planet is full of them," said Moffis. "It seems like heaven compared to what it was when the full-scale fighting was going on, but when you get right down to it, it's hard to see whether we've made any headway since then or not. The maddening

part of it is, we can't seem to get a grip on the thing." He hesitated, then went on. "It's too much like trying to wear down a rock with dirt. The dirt wears away instead."

Horsip nodded, made an effort, and looked confident. "Never mind that, Moffis. You've got the molk in the stall for us. He's still kicking, but that just means there's so much the more meat on him."

"I hope so," said Moffis.

"You'll see," said Horsip, "once Planetary Integration gets started on the job."

The staff of Planetary Integration came down on the planet the next day. Soon they were coming in from the landing field in groups. They were talkative people, waving their hands excitedly, their voices higher-pitched than most. Their faces were smug, and in their eyes was a glint of shrewdness and cunning as they regarded the new world around them. Moffis did not look especially confident at their arrival, but Horsip brimmed over with energy and assurance. He began to put the problems to them:

First, what to do about the ambushing on the road?

The answers flew thick as dust in summertime.

Small forts and splat-gun nests could be built along the chief roads. Light patrols could scour the fields alongside to seek out the lop-tails before they got their guns in place. Strips of leaping mines could be laid alongside the roads at a distance, so the lop-tails would have to cross them to do any damage. Light airplanes could drop explosives on them. The problem was easy.

What about the stitching-gun?

Simple. Capture as many as possible from the lop-tails, and teach our men how to use them. Find the factories that made them, and induce the manufacturer to make more. And the same for the place that made their darts. Minor details of the gun's outward appearance could be changed, and a big seal attached, reading "Official Centra Stitching-Gun."

Now, the big question: How to end this creeping war?

The Planetary Integration staff had a simple answer for that one. Every time a human was killed, ten of the lop-tails should lose their lives. If that didn't stop the foolishness, then *eleven* lop-tails should die. If it still went on, then *twelve* lop-tails. Each time the ratio was raised there should be an impressive announcement. Placards should be scattered over the country, saying, "If you murder a Centran, you kill *ten* of your own kind."

The lop-tails should be offered full humanoid equality, local self-government, and all the other inducements, on the condition that they were peaceful, and disciplined the rowdy elements that were causing trouble.

Horsip gave the necessary commands to set the machinery in motion.

For a full week, everything worked splendidly.

Horsip was enjoying a hot scented bath when Moffis came charging in. Moffis had a raised black-and-blue welt on his head, his uniform was torn open at the chest, and he looked furious.

Horsip put his hands over his ears.

"Stop that foul-mouthed cursing," said Horsip: "I can't understand a word you're saying."

Moffis shivered all over, convulsively.

"I say, your integration program isn't working, that's what I say!"

"Why not?" Horsip looked stunned.

"How do I know why not? Nothing works on this stinking planet!"

Horsip clambered out of the tub into the drip pan. "What's wrong? What's happened?"

"I'll tell you what's wrong! We built the small forts and splat-gun nests just as you told us to. The crews in them have been living a horrible life. They're harassed from morning to night. And just what is the advantage, I'd like to know, of having five hundred men strung out in two dozen little packets that have to be supplied separately, instead of all together where you can do something with them?"

"And then, this stitching-gun business. We can't *find* the manufacturer. Everyone says someone else made it. Or they say they used to make them, but not that model. Or they haven't made them for years. Or we blew up their factory when we attacked. And—hairy master of sin!—by the time we get through going from one place to the other—they talk a different language in each place, you know—we don't know whether we're standing on our hands or our feet. Let me give you an example.

"We took this stitching-gun we captured around to find out who made it. Wouldn't you think they could just look at it and tell us? No, sir! Not them! We showed it to the Mairicuns first. One of them said it didn't look like one of their jobs. He thought the Rushuns made it. The Rushuns said it wasn't one of theirs. Theirs had wheels on them. Try the Beljuns. The Beljuns said they didn't make it. Maybe the Frentsh did. The Frentsh looked it over and said, Oh, no, that was a Nazy job. And where were the Nazis? They were wiped out years ago."

Moffis stared at Horsip in frustration. "Now what do we do? And listen, I'm just giving you a summary of this. You don't know what we went through. Each one of those places has bureaus, and branches, and departments, and nobody trusts anyone else.

"The Rushuns say about the Mairicuns, 'What can you expect of those people? Pay no attention to them.'

"The Mairicuns say about the Rushuns, 'Oh, well, that's just what the Rushuns say. You can't believe that.'

"Now what do we do?"

Horsip decided he had dripped long enough, wrapped a bath-blanket around him and began drying himself. Evading the issue, he asked, "How's the casualty rate?"

"We haven't had a man *killed* since we made the edict."

"Well," said Horsip, brightening, "that worked out, didn't it?"

Moffis looked like he smelled something unpleasant. "I don't know."

"Well, man, why not? What's wrong with that? That's what you wanted, isn't it?"

"Well . . . I guess so."

"Well, then. We're getting a grip on the thing."

"Are we?" Moffis pulled a sheet of paper out of his pocket. "Since we gave the edict, we have had three thousand seven hundred sixty-eight slit or punctured tires, one hundred twelve blown-up places in the road, five unoccupied cars rolled over the side of a hill, eighteen cars stuck in tarry gunk on a steep incline, and a whole procession of twenty-six cars that went off the road for no known reason at the bottom of a hilly curve. We have also had break-downs due to sand in the fuel tank, water in the fuel tank, holes in the fuel tank, and vital parts missing from the machinery. Is that an improvement or isn't it? The tires, injured roads, and damaged machinery have to be repaired. That takes work. In this same period we have had"—he turned over the paper—"one hundred twelve men out for sprained backs, ruptures, and so on, and eight men in bad shape due to heart trouble. Also, the men are getting rebellious. You know as well as I do, Centra soldiers *hate* drudgery. Not only that, but you should see those roads! How do they make them like that in the first place? We *can't* repair them as well as they're made. I tell you I'm getting fed up with this!"

Horsip scrubbed himself dry, then dressed and went off to see his Planetary Integration staff, now working happily on plans for final integration of the planet into the Integral Union some twenty years in the future. Moffis went along with him. Horsip explained the situation.

A precocious-looking individual with large eye-correctors and thin hair on his hands addressed Moffis in a peevish voice.

"Why," he demanded, "do you fail to assure proper protective precautions for these vehicles?"

"Because," snarled Moffis, "we have all these stinking rattraps to supply, that's why."

"I presume your troops are in possession of all their senses? How can damage be inflicted upon the vehicles when your men maintain proper precautions?"

"What? I just told you!"

"I fail to understand how it can be possible for the natives to approach the vehicles without being apprehended."

Horsip put in quickly, "He means, why aren't they seen?"

Moffis, whose face was glowing red, said fiercely, "Because it's night, that's why! They can't be seen!"

"A simple solution. Carry the operation out in daytime."

Moffis gritted his teeth. "We *can't*. Every time a car slows down in the daytime, some sharp-shooter half-a-drag away puts a dart through the tires."

Moffis's precocious-looking questioner stared at him as if in a daze. "Oh," he said, suddenly looking relieved, "exaggeration-for-conversational-effect."

"What?" demanded Moffis.

"I supposed you to be serious about the half-drag accuracy of the projectile."

"About," Horsip hastily interpreted, "how far the native's gun could shoot with accuracy. He thought you meant it."

"I did mean it," said Moffis.

There was a sound of uneasy movement in the room.

"Theoretically impossible," said someone.

Moffis glared at him. "Would you care to come up and lie down behind a tire?"

Horsip, noting an undesirable effect on the morale of his staff, suggested they put a team to work on the new problem, while the rest continue what they were doing. He ushered the growling Moffis out of the room.

By the time Horsip had Moffis soothed down, and finally got back to his staff, an uproar had developed over the "meaning" of the "significant datum" that the lop-tails could shoot a gun half-a-drag and hit something with it. This fact seemed to upset a great number of calculations, in the same way that it would upset calculations to find two different lower jaws for the same prehistoric monster.

The arguments were many and fierce, but under Horsip's skillful prompting, they seemed to boil down to a choice between two, either: (a) the lop-tails possessed supernatural powers; or (b) the lop-tails used methods of precision manufacture on their ordinary guns and munitions such as humans used only—and then with great difficulty—on their spaceships.

The possibilities resulting from the acceptance of (a) were too discouraging to think about. Those resulting from (b) led by various routes each time to the same conclusion, that the lop-tails were smarter than the humans.

This unpleasant conclusion led to one that was really ugly; namely, of two races having humanlike characteristics, which race is human, the smart race or the dull race?

At this point in the argument, an unpleasant little man in the back of the room rose up and announced that on the basis of an extension of standard comparative physique types from the humanoid to the human, the lop-tails were more advanced than the Centrants.

But that was the low point in the argument. Soon the hypothesis of "pseudo-intelligence" was introduced to explain the lop-tails' accomplishments. Next, a previously undistinguished staff-member introduced the homely simile of passing over the brow of a hill. If, he said, one went far enough in one direction, he at last came to the very top of the hill. Any further motion in that direction carried one down the slope. True, he said, these lop-tails might go further in certain physical characteristics than the Centrants themselves. But to what point? The Centrants were at the peak, and any ostentatious exaggeration of Centran traits was merely ridiculous.

The excitement abated somewhat, and Horsip got his staff back to work on the

pressing problem of supplying the road outposts without losing vehicles in the process. Then he hunted up Moffis.

The Military Overseer was in a room with five humans and a number of lop-tails. Plainly, Moffis was trying to question the lop-tails about something. But the lop-tails were arguing among themselves. Moffis left the room when he saw Horsip, first instructing his subordinates to carry on.

Moffis, wincing as if with a severe headache, said: "What a relief! I'm glad you came along."

"What's wrong?" asked Horsip.

"Interpreters," said Moffis. "These lop-tails all have different languages, and interpreters never agree on what is being said."

"Hah!" said Horsip. "You should have heard what I've just been through."

"This was worse," said Moffis.

"I doubt it," said Horsip, and described it.

Moffis looked gloomy. "I don't care what you call it. This pseudo-intelligence is going to be the end of us yet. Of all the planets I've helped capture or occupy up till now, I've generally had the feeling of outplaying the natives. You know what I mean." After the first clash of arms, you play a *deeper* game than they do. You manipulate the situation so that if they go against you they're swimming against the current. When you have that advantage, you can use it to get other advantages, till finally, you have complete control of the situation."

"They're integrated," said Horsip.

"Yes," said Moffis. "But it isn't working that way here. Ever since the initial clash, we've been *losing* advantages. We're spread thin. The natives act in such a way that we spread ourselves thinner. I have the feeling *we're* the ones that are swimming upstream."

"Still," said Horsip, "we're the conquerors."

"I just hope they stay conquered," said Moffis fervently.

"I have an idea," said Horsip.

Horsip and Moffis spent the next few hours discussing Horsip's idea.

"It's the best thing yet," said Moffis, as they strolled down the hall afterward. A smile of anticipation lighted his face: "It should tie them in knots."

Horsip smiled modestly.

"We'll need plenty of reinforcements," said Moffis, "so I'll send out the request right away."

"Good idea," said Horsip.

They strolled past the office of the Planetary Integration staff. A sound of groaning came from within. Horsip spun around.

"Excuse me," said Horsip. Scowling, he went into the room.

As he entered, he saw the whole staff sitting around in attitudes of gloom and

dejection. A number of natives were in the room and one was talking earnestly to several members of the staff.

"No! No! No!" the native was saying. "You can't do it that way! If you do, the cars will lurch or even fly off the track every time you get up past a certain speed. You've got to have a transition curve first, see, and then the arc of a circle."

Horsip stopped, puzzled, and looked around.

Beside him, a staff member with his head in his hands looked up and saw Horsip. Horsip glanced at him and demanded, "What's going on here?"

"We got the natives in to study their language, and . . . and to worm their tribal taboos out of them." His face twisted in pain. "And we wanted to find out the limits of their pseudo-intelligence." Tears appeared in his eyes. "Oh, why did we do it?"

"Will you stop croaking?" snapped Horsip. "What happened? What is all this about?"

"They're *smarter* than we are!" cried the staff member. "We tested them. And they're smarter. Oh, God!" He put his head in his hands and started to sob. Several other staff members around the room were crying.

Horsip let out a low growl, stuck his head into the corridor, and bellowed, "Guards!"

A sergeant came running, followed by a number of soldiers.

"Clear these natives out of here!" roared Horsip. "And hold them under guard till I give the word!"

The sergeant snapped "Yes, sir!" and began to bawl orders.

The natives marched past with knives and guns in their backs.

"Listen," said one of the natives conversationally, as he was hustled out of the room, "if you'd just put holes in the guards of those knives, you could slip them over the gun barrels, and it would make it twice as easy—" His voice faded away in the corridor.

Horsip, furious, turned to glare at his staff. With the natives' voices taken out of the room, the sobbing and whimpering was now plainly audible.

"Stop that!" roared Horsip.

"We can't help it," sobbed several voices in unison, "they're smarter than we are."

"Gr'r'r," said Horsip, his face contorted. He reached out, grabbed one man by the uniform top, and slapped him hard across the face. The man stiffened, his eyes flashing reflexive rage.

"Listen to me!" roared Horsip. "You limp-spined, knock-kneed boobs! Pay attention here, before I—"

*Slap!*

"Look up, you slack-jawed—"

*Slap!*

"Straighten up, before I—"

*Slap!*

"Look up, you—"

*Slap! . . . Slap! . . . Slap!*

Massaging his fingers, Horsip returned to the head of the silent room.

"Morons," he said angrily, "you boobs, you simpletons, you subhuman—"

"That's just it!" cried one of the men. "The things you just said are—"

"Shut up!" Horsip glared at him, then let his glare roam over each of the others in turn.

"Here you sit," he went on, "the elect of Centra. Not the smartest, by a long shot, but good enough to be in Planetary Integration. And you moan because the lop-tails are smarter. Do you make your own minds stronger by putting your heads in your hands and groaning about it? Do you make a muscle stronger by complaining that it's weak? Do you climb a hill by lying down, putting your hands over your eyes, and rolling to the bottom—all because someone else seemed to be a little higher up? Do you?"

There was a feeble scattering of "No's."

"'No!'" said Horsip. "That's right. Now you're starting to think. If you want to be stronger, you use your muscles, so if you want to strengthen your grip, do you let things go loose and sloppy through your fingers? No! You grip down tight on something suited for the purpose. And if you want your mind to grip stronger, do you let it stay limp and loose with self-pity? Do you? *No!* You grip with it! You take hold of something small enough to work with and grip it, fasten your attention on it, and then you've exercised your mind and you're stronger. Right?"

"Now," he turned to the nearest man, "fasten your mind on what you've learned from these natives. Hold it steady and think on it. Nothing else. The rest of you, do the same. What an opportunity for you! Then, when you've squeezed all the juice out of what you've learned, boil it down, and put the essence of it on a sheet of paper so I can look it over. Now I am going to be busy, so get to work."

Horsip stalked out of the room, closed the door firmly, strode down the hall to his suite, and locked the door behind him.

"My God," he groaned. "They *are* smarter than we are!"

He stripped off his wet clothes, soaked himself in a steaming hot bath, fell into his bed in a state of exhaustion, and slept sixteen hours without a break.

He awoke feeling refreshed, till he thought of what had happened the day before. With a groan, he got up, and some time later appeared in the Planetary Integration offices, smiling confidently. A stack of papers twice as thick as his hand was waiting for him on his desk. He greeted his staff cheerfully, noted that if they were not exuberant, at least they were not sunk in despair, then picked up the stack of papers and strode out.

Back in his private suite, he plopped the papers down, looked at them uneasily,



chose a comfortable seat, loosened the collar of his uniform, got up, checked the door, sat down, and began going through the papers, peeping cautiously at the titles of each report before looking further. Clearly, the natives had unburdened themselves of a vast amount of information. But most of it was very specialized. About a quarter of the way down the list, Horsip came on a thick report labeled: "Love Habits of the Lop-Tail Natives." Firmly he passed over the paper, moved on and found one headed, "Why The Lop-Tails Do Not Have Space Travel." He separated this from the rest, put one labeled "The Mikeril Peril" with it, set it aside, and went on.

When he was through, he had a much smaller pile of papers that he thought worth reading, the lot headed by a paper on "Topics the Lop-Tail Humanoids Avoided Discussing." Before starting to read them, he thought he would just glance through the pile to see that he hadn't missed any. About a quarter of the way through the heap, he came on a thick paper labeled: "Love Habits of the Lop-Tail Natives." Hm-m-m, he thought, there might be important information in that. You never knew—Firmly, he passed over it and searched through the remaining sheets. He set the pile aside, it slipped off the table, and as he bent to pick it up, he came across "Love Habits of the Lop-Tail Natives."

He decided to just glance at the first page.

Fifty-one minutes later, Moffis rudely interrupted Horsip's wide-eyed scrutiny of page eighteen by hammering on the door.

"Now what?" demanded Horsip, opening the door.

Moffis strode in angrily, a large piece of message paper fluttering in his hand.

"The double-damned boob won't reinforce us, that's what! Look at this!" Moffis thrust out the paper.

Horsip read through the usual dates and identification numbers, passed through some double-talk that all boiled down to "I've thought it over," and then came on the sentence: "Requests for such massive reinforcements at this date would create a most unfavorable atmosphere, and in so far as the Sector Conference on Allocation of Supplies is about to begin, it seems highly inadvisable at this end to produce a general impression of disappointment and/or dissatisfaction concerning the performance of any units of this command."

Horsip's teeth bared involuntarily. He took a deep breath and read on. There were vague hints of promotion if all went well, and subtle insinuations that people would be jammed head first into nuclear furnaces if things went wrong. It ended up with double talk designed to create a sensation of mutual good feeling.

Moffis glared. "Now what do we do?"

Horsip controlled his surging emotions, and took time to think it over. Then he said, "There's a time to smile all over and be as slippery as a snake in a swamp, and then there's a time to roar and pound on tables. Go find out when this Sector Conference meets, and where."

Moffis hurried out of the room.

Horsip went into his office, yanked down a book on protocol, and began drafting a message.

Moffis found him some time later and came in. "I've got the location and time." "All right," said Horsip, "then send this." He handed over a sheet of paper. "If possible, it ought to be timed so it will arrive just as the conference opens."

Moffis looked at it and turned pale. He read aloud:

"Situation here unprecedented. Require immediate reinforcement by two full expeditionary forces to gain effective control of situation, which has exceeded in violence and danger that of *Centralis II*."

Moffis swallowed hard. "Do I sign that or do you?"

Horsip glared at him. "I'm signing it. And it would be much more effective if you signed it, too."

"All right," said Moffis. He smiled grimly and went out of the room.

Horsip shivered, went back to his suite, wrapped himself up in a blanket, and began reading "Topics the Lop-Tail Humanoids Avoided Discussing."

Horsip was very thoughtful after reading that paper. Apparently the humanoids were slippery as eels regarding any discussion of military principles or problems. They professed also a great ignorance concerning questions on nuclear fission. They were evasive concerning a glaring discrepancy between the numbers of cannon, traveling forts, et cetera, turned over to the Centrals, and the number that were estimated to have been used in action. Horsip made brief notes on a pad of paper, and turned without pleasure to the next report.

This was a paper headed "The Mikeril Peril." As usual, he felt the hair on the back of his neck rise at mention of the word "Mikeril." Uneasy tingling sensations went up and down his back, probably dating from the childhood days when his mother warned him, "Klide, do you know what happens to bad boys who don't do what they're told? The Mikerils get them." The Mikerils ate Centrals. Or, at least, they *had* before the humans wiped them out in a series of wars. Horsip pulled the blanket around him and began reading the paper.

"I was discussing problems in statistics with one of the lop-tails," the paper began, "and searching a test problem to put to him, I came across some old data concerning the numerous outbreaks of Mikerils on Centra and other planets we have occupied."

"On the basis of the partial data I gave him, the native was able to accurately date other outbreaks that preceded and followed the period concerning which I had given him information. I was preparing to concede the correctness of his calculations, when he screwed up his face, put his head on one side, and said, 'I should estimate the next probable heavy outbreak to take place 67 days, 4 hours, and 13 minutes from now, plus or minus 7.2 minutes.'"

Horsip looked up, the hair on his back rose, and he experienced a severe chill as he seemed to see a big hairy Mikeril sinking its poison-shafts into its victim, its many

legs spinning him round and round as it bound him helplessly and carried him off inert.

Then Horsip sank down in his seat, looked over the prediction again, and his eye caught on " 'plus or minus 7.2 minutes.' " Horsip decided the native was either vastly overenthusiastic, or else just liked to poke people in the ribs to see them jump. He turned to the next paper.

This one, on "Why the Lop-Tails Do Not Have Space Travel," made difficult reading. Horsip could not reconcile the straightforward title with the involved argument and minute dividing of hairs in the body of the paper. After a hard fight, Horsip got to the last paragraph of the report, which read:

"Summary: In summary, this author states the conclusion that the beings provisionally known as 'lop-tailed humanoids' failed to acquire space-traversing mechanisms owing to a regrettable preoccupation with secondary matters pertaining principally to interests other than those regarding the traverse of interplanetary and interstellar regions, primarily; and secondarily, owing to use of that characteristic provisionally known as 'pseudo-intelligence,' the aforesaid beings were enabled to produce locally satisfactory working solutions to certain difficult and specialized problems the solution of which, in a different state of affairs, might well have eventuated in the discovery of the principle known briefly in common professional parlance as the positive null-void (PNV) law. With these conclusions, the native known as Q throughout this paper was in complete accord."

Horsip, dazed from the rough treatment the paper had given him, stared at it in vague alarm. Unable to pin down the exact point that bothered him, he moved on fuzzy-brained to the next report.

This one started off as if it consisted of vital information about the very core of lop-tail psychology. But on close inspection, it turned out to contain a collection of native fairy tales. Horsip read dully about "Pandora's Box, the highly significant, crystallized expression of the fear-of-the-unknown syndrome, the reaction of retreat-into-the-womb; the tale symbolizes the natives' attitude toward life and their world. The protagonist, Pandora, receives a box, (significance of angular shape of typical native container) which she is not supposed to open (see taboo list, below), and a variety of afflictions emerge *into* the world (Pandora's world)—"

Horsip looked up angrily to hear a knock sound on the door. He let Moffis in.

"I sent it off," said Moffis.

"What?" snapped Horsip.

"The message to the Sector Conference, of course." He looked sharply at Horsip. "What hit you?"

"Oh, these stinking reports," said Horsip angrily. "Come in and lock the door."

Horsip went back to the reports and told Moffis about them.

"Some are good, and some are bad," said Horsip, "and some are written so you

need a translator to explain them to you. It's always been like that, but on this planet, it seems exaggerated. I suppose for the same reason that a ground-car makes more trouble in rough country."

"Well," said Moffis, "maybe I can help you. Let me look over that bunch you've finished. That business about the significant quantities of guns, et cetera, that are missing, makes me uneasy."

"Help yourself," said Horsip.

Moffis picked up the pile and leafed through it. He paused at one report, looked at it, started to pull it out, put it back, scowled, looked at it again, shrugged, pulled it out further, held his place in the pile with one hand, and pulled it out all the way to look at it.

Together they read the reports, Horsip uttering groans and curses, and Moffis saying "Hm-m-m," from time-to-time.

At last, Horsip threw down several reports with a loud *whack*, and turned to speak to Moffis.

Moffis was absorbed.

Horsip looked impressed, turned away considerably, stiffened suddenly, turned back, got down on his hands and knees, twisted his head around and looked up from below at the title of what Moffis was reading. The letters stared down at him:

"Love Habits of the Lop-Tail Natives."

Horsip untwisted himself, stood up, brushed himself off, and disgustedly left the room. He strode down the corridor, resolved on action. He was fed up with this feeling of struggling uphill through a river of glue. He was in charge of this planet and he aimed to make his influence felt. The first thing, obviously, was to take these natives the staff had been questioning, get one of them alone with some guards, then put the questions to him. This business of getting it second or third hand was no good.

He turned a corner, strode to a door marked "Prison," said "At ease," as the guard snapped to attention, and started in.

"Sir," said the guard desperately, "I wouldn't go in there just now. Things are a little confused right now, sir."

Horsip's brows came together and he strode through the doorway as if propelled by rockets. He halted with equal suddenness on the other side.

Several dazed-looking soldiers were working under the direction of a red-faced officer who was barking oaths and orders in rapid succession. The general direction of the effort seemed to be to get three soldiers who were tied up untied. The trouble was that the three were off the floor, strung by their middles to the upper tier of bars in a cell. When one soldier was successfully pulled to the floor, overenthusiastic soldiers working on the other side of the bars would make a leap upward, seize one of the other soldiers, and haul him down, whereupon the first soldier would fly up out of the hands of the men trying to untie him.

"Captain," said Horsip dryly, "concentrate your effort on one man at a time."

The officer was apparently shouting too loudly to hear.

*Wham!* Down came one soldier and up went another.

The officer paid not the slightest attention to Horsip's order.

Horsip noticed one of the three tied soldiers slowly bending and unbending from his middle.

The first soldier came down and the second jerked up.

The officer screamed in frustration, threats, oaths, and orders mingled together in a rage that drove the soldiers to jerking frenzy.

Down came the second soldier. Up went the first.

Now the first was down again. Now he was up. Now down again.

Up . . . Down . . . Up . . .

Every small detail of the scene was suddenly crystal clear to Horsip, as if he were seeing it under thick glass. He felt detached from it all, much like a third person looking on. When he spoke, he did not feel that he gave excessive force to the word. He was hardly conscious of speaking at all. He merely said:

“CAPTAIN!”

The officer halted in mid-curse. He turned around with the glassy-eyed expression of a fish yanked out of the water on a hook.

The soldiers froze in various postures, then jerked to attention.

The outer door opened up and the guard presented arms.

Horsip said, “Captain, take the two nearest soldiers. Have them pull down that man on the *outside* of the cell. Now have them hold tight to the rope that’s looped up over the bar. Now, take the next two nearest soldiers and have them untie that man. All right. Now, have those next two soldiers stand on the opposite side of those bars, *inside* the cell, ready to catch that other soldier when the rope is lowered.”

The captain, using his hands to move the soldiers around, was following out Horsip’s orders in a sort of dumb stupor. The first soldier was untied. The second soldier was cut down. The second soldier was untied. The third soldier was untied, and sat chafing his wrists and hands, and massaging his abdomen.

Horsip motioned the captain into a little cubicle containing a desk and a filing cabinet.

“What’s happened here?” said Horsip.

The captain merely blinked.

Horsip tried again. The captain stood there with an unfocused look.

“Report your presence,” said Horsip.

The captain’s hand came up in a salute, which Horsip returned.

“Sir, Captain Moklis Mogron, 14-0-17682355, 3rd Headquarters Guards, reports his presence.”

The captain blinked, and his eyes came to a focus. He seemed to really see Horsip for the first time. He turned pale.

"What happened, Captain?" said Horsip.

"Sir, I—" The captain stopped.

"Just tell me what you saw and heard; as it happened," said Horsip.

"Well, I . . . sir, it all boils down to . . . I just don't remember."

"What's the first thing you do remember?"

"I opened that outside door; and I came in, and— Wait. No. The guard came to me and told me the prisoners needed attention. I came in, and . . . and—" He scowled fiercely. "Let's see, I came in, and, let's see, one of the prisoners—yes! The prisoners were out of their cells! . . . But they said that's what they called me in for. The lock design on the cell was no good, and they wanted to show me a better one. One of them was holding a shiny key on a string in the bright light from this desk light . . . now, what was that doing out there? . . . and he said to look at it, and watch it, and keep my eye on it, and he'd explain why I should . . . should—"

The captain looked dazed.

"Report your presence!" snapped Horsip.

The captain did so. Horsip tried several times, but could not get past the point where the natives showed the captain the shiny key in the bright light. Horsip became vaguely aware that he was wasting his time on scattered details, and, as usual on this planet, coming away empty-handed. He sent the captain out to learn from the three soldiers how they had come to be tied up in the air that way. The captain returned to say the natives had told the soldiers about a rope trick, had gotten them over to the bars with a coil of rope, and that was all the soldiers remembered.

Horsip sent out orders to comb the place for the prisoners, and for anyone who had seen them pass to report it.

The prisoners weren't found, and everyone was sure *he* hadn't seen them.

Horsip went back to his rooms feeling more than ever as if he were struggling uphill through layers of mud.

The next day passed in a welter of sticky details. The staff had finally figured out how to get supplies to the outposts without having the tires shot out in the process. An armored ground-car towing a string of supply wagons was to approach the outposts, traveling along the roadway at high speed. As the cars passed the outposts, soldiers on the wagons were to throw off the necessary supplies, which the men from the outposts could come out and pick up. In this way, the staff exulted, there would be no need for the cars to slow down; as the natives seemed reluctant to fire at moving vehicles—lest they kill someone and invoke the edict—there should be no more trouble from that source.

To protect vehicles from sabotage at night, the staff proposed the construction of several enormous carparks, to be surrounded by leaping-mine fields and thick spike-bar barriers.

Meanwhile, another convoy of eighteen cars had shot off the bottom of the hilly

curve with no known explanation. The staff advised the building of a fortified observation-post, with no fewer than two observers on watch at all times, so it could at least be found out what happened.

But the old troubles were not the only ones to deal with. Just as the Planetary Integration team triumphantly handed out answers to thorny problems that had confounded them in the past, word came of something new and worse. The soldiers were getting hard to manage.

Always in the past, on conquered planets, the troops had had *some* sort of female companionship. The natives had often been actually glad to make alliances with their conquerors. But here, such was not the case. The females of the local species ran shrieking at the approach of a love-starved soldier. This had a bad effect on morale. Worse yet, the lop-tail authorities had been offering to help matters by showing the soldiers instructive moving pictures on the topic, these pictures being the very same ones used to instruct the lop-tail soldiers on how to act toward females. Since seeing these pictures, it was a question who was more afraid of whom, the soldiers or the women. Now there was a sort of boiling resentment and frustration, and there was no telling where it might lead to.

While the staff, under Horsip's direction, was thrashing this problem out, Moffis, red-faced and indignant, came charging into the room.

Horsip sprang from his seat and rushed Moffis out into another room.

"Hairy master of sin!" roared Moffis. "Are you trying to ruin me?"

"Keep your voice down," said Horsip. "What's wrong now?"

"Wrong? That stinking idea for feeding the outposts, that's what's wrong."

"But— Why?"

"Why?" Moffis growled deep in his throat. He stepped back, his teeth bared and one hand out to his side. "All right, Here I am, I'm on one of these stinking supply-wagons your bright boys say ought to be hooked up to the ground-cars. We're racing along the road at high speed, like we're supposed to. We go over a repaired place in the road. All the wagons go up in the air. I have to hang on for dear life or I go up in the air. Now someone yells 'Three barrels of flour, a sack of mash, three large cans Concentrate B, and a case of .33 splat-gun darts.'"

Moffis glared. "I'm supposed to get this stuff unstrapped and pitched out between the time we bounce over the repaired place and the time the outpost shoots past to one side?"

Horsip hesitated.

"Come on," roared Moffis. "Am I?"

"Well, now, look," said Horsip. "You're not going at it the right way."

"Oh, I'm not, am I?"

Horsip flared: "If you had the sense an officer's supposed to have, you'd know better than to have the stuff strapped in helter-skelter. You'd have a supply schedule

strapped to a wagon post, and the supplies all loaded on in reverse order, so it would be no trouble at all—”

“But,” said Moffis, “I’m not playing the *part* of an officer here! I’m one of our *soldiers*! I’m irked and griped because here I am, a soldier of the Integral Union, and I don’t even dare speak to any of the native girls running around. There’s no fighting going on—nothing definite—just an endless folderol that isn’t getting anywhere. I’m about fed up with the thing. Every time I turn around there’s some new make-shift.”

“Yes, yes,” said Horsip. “I see that—”

“All right,” said Moffis, “the point is, the soldier is no mathematician in the first place. If you explain every point of the routine to him—O.K., *maybe*. But if he isn’t used to it, things are going to get snarled up. Well, he hasn’t had any training for this routine and it’s a mess.”

“In time—” said Horsip, groping his way.

“In time, nothing,” said Moffis. “It won’t work, and that’s that. I haven’t even had time to tell you everything wrong with it. What do you suppose these barrels and cans *do* when they hit the ground, anyway?”

“Well—”

“They *burst*, that’s what they do! And I’m here to tell you a soldier that sees his barrel of flour come out the side of a wagon, hit the ground, fly to pieces, and then get swirled all over the road by half-a-dozen sets of wheels is in no frame of mind worth talking about.”

“For—”

“He has to sweep it up with a broom!” roared Moffis. “And by the Great Hungry Mikeril, I tell you, *I* don’t want to be around trying to give that soldier orders until we’ve unloaded his gun and got his knife away from him. There’s got to be some other way of supplying these outposts or I pull in every one of them and to hell with sharp-shooters along the road. At least the men will be able to eat.”

“Yes,” said Horsip, feeling exhausted, “I see you’ve got a point there.”

“All right,” said Moffis. He stopped to swallow and massage his throat. “There’s another thing. This car-park idea.”

“Surely there’s nothing wrong with that.”

“No, the *idea* is all right. The plan on paper looks good. But how many million gross of spike-bars do your people think an army is equipped with, anyway? You’re an officer. You know that. We have just so many for ordinary requirements, plus a reserve for desperate situations. And that’s it. Well, this planet has been nothing but one big desperate situation since we landed on it. We just don’t have the material to make any such big things as these car-parks.”

“Couldn’t you,” said Horsip, desperately, “collect a few here and there from your fortifica—”

“*No!*” roared Moffis, his voice cracking. “Not on your life! Once we start gnawing holes in our own defenses—”



"All right, then," said Horsip, straightening up, "what about the natives? They had armies. *They* must have used spike-bars. Or, if they didn't, we can teach them how they're made, buy them from them—"

Moffis looked down at the floor gloomily.

"What's the matter?" said Horsip.

Moffis shook his head. "They didn't use spike-bars."

"Well, then, we can teach—"

"They had their own stuff."

Horsip looked apprehensive. "What?"

"Fang-wire."

Horsip felt himself sinking into a fog of confusion. With an effort he struggled clear. "What did you say?"

"I said, they had their own stuff. Fang-wire."

"What in the world is that?"

"Thick twisted wire with teeth on it."

Horsip goggled. "Is it as good as our spike-bars?"

"As far as coming up against it, one is about as bad as the other."

"Then— Why don't we use it?"

Moffis shook his head. "If you ever saw our soldiers laying the stuff out— It comes wound up on little wire barrels. You have to take one end of the stuff, without getting the teeth in you, and pull it free. It comes off twisted, it jumps and vibrates, and the teeth are likely to get you if you try to straighten it out. I saw half a company of soldiers fighting three rolls of fang-wire the only time we ever tried to use it. The wire was winning. The natives were dug in on a hill opposite from us, and they were having hysterics. No, thanks. Never again."

"Listen," said Horsip doggedly, "if *they* use the stuff, there must be some way to do it."

"That's so," said Moffis, "but if we take the time to train the army all over again in new ways of fighting, we aren't going to get anything else done."

Horsip paced the floor. "I hate to say this, Moffis, but it appears to me to be a plain fact that this victory is tearing the army to pieces."

"I know it," said Moffis.

"Everywhere we come in contact with the natives, something goes wrong."

Moffis nodded.

"All right," said Horsip, his voice rising. "What we need here is drastic action, striking at the root of the trouble."

Moffis watched Horsip uneasily. "What, though?"

"Reconcentration," said Horsip. "The iron rusts fast when it's cut in bits where the air can get at it. Melt it back into a bar and only the surface will rust. Then the bar will keep its strength." Horsip looked hard into Moffis's eyes. "We've got to

mass the troops—not just the road outposts, but the occupation districts. Everything. Take over a dominating section of this planet and *command* it.”

“But regulations— In Phase II we *have* to do it this way!”

“All right,” said Horsip, “then we’ll go back to Phase I.”

“But . . . but that’s never been done! That’s—” Moffis paused, frowning. “It might work, at that. The devil with regulations.”

They gripped each other’s arms. Moffis started for the door and walked into a hurrying messenger. He exchanged salutes, took the paper, looked at it, and handed it to Horsip. Horsip looked at it and read aloud:

“Hold on. Arriving in thirty days. Twenty million troops in motion. Your plan good. Argit, Supreme Integrator.”

“I guess we’d better stay put,” said Moffis.

Horsip frowned. “Maybe so.”

It was a trying thirty days.

The outposts took to buying food direct from the natives. The road-repair crews fell into an ugly habit of getting out of work by exposing arms or legs and daring the lop-tails to shoot at them. There were so many flesh-wounds that the aid stations began running out of supplies. Troops in the remoter sections began drinking a kind of liquid propellant the lop-tails sold in bottles and cans. It was supposed to cure boredom, but the troops went wild on it, and the reserves were kept bouncing and grinding from one place to another, thinking the war had broken out again.

Planetary Integration did have a few victories to its credit. The trouble on the hilly curve, for instance, proved to be caused by a gang of native boys who came out every few days and stretched a cable across the road at an angle. The speeding ground-cars spun around the curve, slid along the cable and went over the edge. The boys then came out, rolled up the cable, and went home for breakfast. By the time this was discovered, the situation was so uneasy no one thought of asking any more than that the boys be spanked and the cable confiscated.

At intervals, by now, large concentrations of humanoid soldiers were observed in open maneuvers; their troops were fully equipped with stitching-guns, cannons run from place to place by their own engines, and traveling forts in numbers sufficient to turn a man pale at the mere mention.

Horsip watched one of these maneuvers through a double telescope in an observation post on his fortified mountain.

“Is that what you had to fight, Moffis?” he asked, his voice awed.

“That’s it,” said Moffis. “Only more of them.”

Horsip watched the procession of forts, guns, and troops roll past in the distance.

“Their airplanes,” said Moffis, “were worse yet.”

“Then how did you ever win?”

“For one thing,” said Moffis, “they weren’t expecting it. For another, they wasted

energy fighting each other. And our troops were in good order then. They were used to victory, and they were convinced they were superior. Then, too, we used the Fleet to cut the natives' communications lines."

Horsip looked through the telescopes for a while, then straightened up decisively.

"Well, Moffis," he said, "we're in a mess. We're like a man in an ice-block house when the spring thaw sets in. We don't dare step down hard anywhere lest the whole thing fall apart. We're got to walk easy, and just hope the cold wind gets here before it's too late. But there is one thing we ought to do."

"What's that?" said Moffis.

"The reserves. They aren't committed anywhere. We've got to hold them in hand. And if we need them, we want them to be a club, not a length of rotten wood. We've got to train them so hard they don't have any time to get flabby."

"Truth," said Moffis. "There are so many leaks to patch, one forgets other things."

The occupation army got through twenty-four of the thirty days like a ship sinking slowly on a perfectly even keel.

On the twenty-fifth day, however, a procession of native military might passed by Horsip's mountain headquarters in such strength that the ground was felt to tremble steadily for three hours and a half.

On the twenty-sixth day, a native delegation called on Horsip and politely but very firmly pointed out to him that this military occupation was disrupting business, and was causing all manner of trouble to everyone concerned; it should, therefore, end. Horsip was very agreeable.

On the twenty-seventh day, three hundred traveling forts blocked traffic on one of the main highways for more than two hours.

On the twenty-eighth day, a flying bomb came down a mile and a half from headquarters, and left a hole big enough to hide a rocket fleet in. The ground shuddered and quaked with marching feet. That evening, the native delegation called again on Horsip and stated their position in short pithy sentences, and words of few syllables. Horsip pleaded that he was tied up in red tape. The natives suggested the best way to get rid of red tape was to cut it with a knife.

In the early morning of the twenty-ninth day, a flight of Centran airplanes, trying to scout the strength and direction of the native movements, was forced down by humanoid aircraft, that flew at and around them as if they were standing still. Horsip ordered the rest of his airplanes grounded and kept hidden till he gave the word. The observers of the planes forced down straggled in to report massive enemy concentrations flowing along the roads past the small forts and splat-gun nests as if they did not exist. The troops in the forts and nests were apparently afraid to fire for fear of being obliterated.

Horsip received the reports while Moffis carried out a last-minute inspection of the

fortifications at and around headquarters. Late that morning, a hot meal was given to all the troops.

At noon, a traveling fort of a size suitable to have trees planted on it and take its place among the foothills was seen approaching headquarters. It moved into range, came up close, and swung its huge gun to aim directly at the concrete doorway heading down into the mountain. Horsip ordered his gunners not to fire, his unexpressed reason being that he was afraid it would have no effect. He then bade Moffis a private farewell, walked out the concrete doorway in full regalia, glanced at the huge fort, laughed, and remarked to a white-faced man at a splat-gun that this would be something to tell his children. He carried out a calm, careful inspection of the fortifications, reprimanding one gunner mildly for flecks of dirt in a gun barrel. He glanced confidently up the mountainside where ranks of cannon-snouts centered on the huge fort. The gunners around him followed his gaze. Horsip returned the salute of the officer in charge and went back below.

On the plain before the mountain, hundreds of traveling forts were grinding across-country, clouds of dust rising up behind them.

"We should open fire," said Moffis.

"No," said Horsip. "Remember, we're playing for time."

The traveling forts swerved and began approaching. Behind them, the hills were alive with troops and guns.

Horsip gave orders that a huge orange cloth be unrolled on the far side of the mountain. A landing boat circling far above did a series of dips and rolls and rose rapidly out of sight.

The traveling forts came closer.

The monster fort just outside headquarters debouched one native who came in under guard and demanded Horsip's surrender.

Horsip suggested they hold truce talks.

The native returned to his fort.

The troops in the distance began spreading out and crossing the plain.

The huge fort moved its gun a minute fraction of an inch; there was a blinding flash, a whirl of smoke. The tunnel entrance collapsed. There was a deafening clap and a duller boom. The ground shook. Tons of dirt slid down over the entrance. There was a fractional instant when the only sound was the last of the dirt sliding down. Then the earth leaped underfoot as the guns on the mountain opened up.

The traveling forts roared closer, their firing a bright winking of lights at first, the boom and roar coming later. The troops behind followed at a run.

Horsip ordered the planes up, to ignore the forts and attack the troops.

Humanoid planes swooped over a nearby hill.

Life settled into a continuous jar that rattled teeth, dulled thought, and undermined the sense of time. Things began to seem unreal and discontinuous.

Reality passed in streaks and fragments as Horsip ordered the movement of cannon by prepared roadways to replace those put out of action. There was a glaring interval where he seemed to live a whole lifetime while reports came in that enemy troops were swarming up the hillside to silence the guns by hand-to-hand fighting. When the attack slowed he sent a body of reserves to drive the attackers back down and away. But more came on.

The enemy planes began a series of dives, unloosing rockets that bled his troops like long knives stabbed into flesh. Moffis ordered the highest guns to fire on the planes and the rest to carry on as they were. Horsip spent a precious second damning himself for not making that arrangement prior to the battle, and then a yell from the enemy sounded as they surged through the doorway Horsip had thought blocked. He sent a few troops with splat-guns to fire down the corridors, then had to turn his attention to a rush up the reverse side of the hill that had captured a number of the lower gun positions there. He sent in a picked body of the Headquarters Guard he had ordered concealed on the side of the hill for that very purpose.

Evening had at last come, and with it a steady rumbling from the near distance, where the sky was lit with a blue and yellow blaze. Centran ships were pounding the gun positions on the opposite ridge, and their screens were flaring almost continuously with the impact of missiles slammed against them.

The fighting had died out around the mountain, and Horsip and Moffis went out with a small guard to inspect the positions personally. The air was pungent and damp. Their ears felt as if they had layers of cloth over them. There was a thin moon, and here and there on the ground pale glimmerings could be seen as wounded men moved. There was an almost continuous low moan in the air. A soldier with his back against a gun feebly raised a hand as Horsip came near. "The Great One bless you, sir," he said. "We threw 'em back."

Horsip went back to his command post after ordering several guns moved and some spike-bar barriers set up. He felt dazed. He lay down on a cot for a few hours sleep, and was wakened in the early morning to be told an important message had arrived.

On the thirtieth day, five million reinforcements landed.

Horsip spent the day explaining the situation to Drasmon Argit, the Supreme Integrator.

Argit paced the floor, ate meals, lay down on a couch, stretched, pounded out questions, gave orders to hurrying subordinates, and listened, questioned, listened, as Horsip, in a desperate urgency to get the situation across, explained and expounded, using charts, maps, diagrams, and photographs. He tried to get across the sensation of struggling uphill through a river of glue, and was gratified to see that Argit seemed to be getting the idea faster than he—Horsip—had.

After the evening meal was eaten and cleared away in the privacy of a small office, Argit got up and said, "All right, I think I see your point. The natives are techno-

logically more advanced than we are. By a freak, they don't have space travel. We beat them for this reason and because we caught them off guard and they attacked each other. There is also the possibility that they are more intelligent than we.

"All these things are possible. In the course of occupying a million worlds—and there must be that many—who could hope we would not find beings more intelligent than we? Yet these intelligent beings had not yet succeeded in integrating their own planet, much less whole star systems, as we have done. On the contrary, they were about ready to blow their own planet apart when we landed. Why was that?

"You know the principle of the nuclear engines. There is a substance Q that flings out little particles. These little particles strike other atoms of Q which fling out more particles. There is also a substance L which absorbs these particles. Success depends on the correct proportioning of Q and L. There must not be too much L or the particles are absorbed before things can get started. There must not be too much Q or the particles build up so fast that suddenly the whole thing flies apart.

"Now, consider these natives. What are they like? An engine with too much Q, is it not? And what are we like? To speak frankly, Horsip, we have a little too much L, don't you think?"

Horsip nodded reluctantly, then said, "I think I see your point all right, but what are the flying particles in this comparison?"

Argit laughed. "Ideas. From what you tell me of these people, they fairly flood each other with ideas. Horsip, you and I and others in our position have had a difficult time. We are like atoms of Q tearing ourselves apart to try and fling enough particles—ideas—through the general mass so the thing won't all grind to a stop. We only half succeed. At intervals these Mikerils come along and hurl us halfway back into barbarism. We should be able to merely raise the speed of reaction a little and burn them back into outer space. But we haven't been able to. The machine was running as well as it could already—Not enough Q. Horsip, this planet is a veritable mine! There are vast quantities of Q here. It is just what we need!"

Horsip scowled. "Getting it out may be another matter."

Argit nodded. "We only arrived just in time. A little longer and it might all have blown up. We have to fix that first."

"How?"

"Your idea, first. You intended to mix whole populations up, because the language and customs difficulties would cause much confusion and tie them in knots. That is very good. That would act, you see, to slow up the spread of particles—ideas. But we want these people on our side. To that end, we must first help remove their own difficulties—while serving our own purposes, of course. We couldn't stand too many eruptions like this.

"Horsip, with due consideration for their various levels of civilization, we must transfer groups of young people, and various professional groups, from one region of this planet to others. We will not insist that they mix races or customs; but chemicals

react best when divided in small lumps, so—who knows—perhaps it will bring an end to some of these enmities.

“Meanwhile, they are bound to pick up our language. And we will pick up such of their technological skills as we can make use of. They need a universal language. We need new discoveries. Both will profit.

“And then we will offer posts of importance, trade agreements, raw materials—”

“How do we know they are going to accept this?” said Horsip, remembering his own eagerness.

“Ha!” said Argit. “You showed me yourself. They are a born race of teachers and talkers. Every time they’ve been in here, what has it been?—‘Let me show you how that should be done.’ ‘No, look, you have to do it this way.’ ‘Put a hole in the guard of that knife and you can slip it over the gun barrel.’” Argit laughed. “I will bet you the hairy arm of the first Mikeril that attacks us after we get this settled that half the trouble with these people is, they can’t find anybody to listen to them.”

Argit opened the door. A number of Centran troops were squatting in a circle outside, where a medical aide was bandaging a wounded native. The native was talking eagerly in the Centran tongue that appeared to seem simple to them, compared to their own languages.

“Now,” he was saying, “see here. Put a heavy bolt through this place where these bars come together, and you can vary the focus from here, with one simple motion. See? What’s the advantage of having to swing each of these barrels around one at a time? It takes too long. You waste effort. But from *here*, you just loosen the nut, swing the barrels close, tighten it with the wrench, and you’re all set. It’d be easier to carry, too.”

The circle of Centrants looked at the native, looked at each other, and all nodded.

“Truth,” said one of them somberly.

Argit closed the door.

“You see?” said Argit. “They’re born Q material.”

Horsip sadly shook his head. “It seems so. But what are our men? Damper rods.”

The sound of tramping feet sounded outside in the corridor as the leading elements of more reinforcements marched past.

“That’s all right,” said Argit. “We need Q material.”

The tramping rose to a heavy rumble. Horsip felt reassured and Argit nodded approvingly.

“And more than anything else I can think of,” said Argit, speaking over the noise, “these people need damping rods.

“You have to have *both*.” ■

# INTO THY HANDS

Lester del Rey

*"Into Thy Hands" was written during one of the many periods when John W. Campbell was overstocked on longer stories. It originally came to 15,000 words, but I knew that was too long. So, with much mental sweat, I cut it to 11,000. John handed it back with the unwelcome word that his maximum was now 7,000..*

*So, knowing that it was impossible, I sat down to whittle away another third of it. And behold, when I finished, not only had I learned a great deal about cutting, but I found that I now had a much better story!*

*The idea behind it was that all machines are very literal-minded. Robots are, after all, machines. Ergo, robots should be literal-minded. (Of course, if the operator goofs in giving his commands, he'll get unexpected results; but the machine will still be following its "program" literally.)*

*This was written before the coming of computers, of course. But so far, I'm pleased to see that the more complex devices are still as literal in following instructions as were the simplest of their predecessors. After almost forty years, I think the basic idea for the story is still correct.*

*This was the last sale I made while writing was only a hobby, incidentally. When I resumed writing years later, I considered myself a pro, and my stories went through an agent. That's a much more sensible arrangement, of course. But somehow, what is made as a hobby always seems to have a luster that professional products lack.*

*It's quite possibly my literal-minded response to some odd programming built into my genes!*



SIMON AMES WAS OLD, and his face was bitter as only that of a confirmed idealist can be. Now a queer mixture of emotions crossed it momentarily, as he watched the workmen begin pouring cement to fill the small opening of the domelike structure, but his eyes returned again to the barely visible robot within.

"The last Ames' Model 10," he said ruefully to his son. "And even then I couldn't put in full memory coils! Only the physical sciences here; biologicals in the other male form, humanities in the female. I had to fall back on books and equipment to cover the rest. We're already totally converted to soldier robots, and no more humanoid experiments. Dan, is there no way conceivable war can be avoided?"

The young Rocket Force captain shrugged, and his mouth twitched unhappily. "None, Dad. They've fed their people on the glories of carnage and loot so long they have to find some pretext to use their hordes of warrior robots."

"The stupid, blind idiots!" The old man shuddered. "Dan, it sounds like old wives' fears, but this time it's true; unless we somehow avoid or win this war quickly, there'll be no one left to wage another. I've spent my life on robots, I know what they can do—and should never be made to do! Do you think I'd waste a fortune on these storehouses on a mere whim?"

"I'm not arguing, Dad. God knows, I feel the same!" Dan watched the workmen pour the last concrete, to leave no break in the twenty-foot-thick walls. "Well, at least if anyone does survive, you've done all you can for them. Now it's in the hands of God!"

Simon Ames nodded, but there was no satisfaction on his face as he turned back with his son. "All we could—and never enough! And God? I wouldn't even know which of the three to pray survives—science, life, culture." The words sighed into silence, and his eyes went back to the filled-in tunnel.

Behind them, the ugly dome hugged the ground while the rains of God and of man's destruction washed over it. Snow covered it and melted, and other things built up that no summer sun could disperse, until the ground was level with its top. The forest crept forward, and the seasons flicked by in unchanging changes that pyramided decade upon century. Inside, the shining case of SA-10 waited immovably.

And at last the lightning struck, blasting through a tree, downward into the dome, to course through a cable, short-circuit a ruined timing switch, and spend itself on the ground below.

Above the robot, a cardinal burst into song, and he looked up, his stolid face somehow set in a look of wonder. For a moment, he listened, but the bird had flown away at the sight of his lumbering figure. With a tired little sigh, he went on, crashing through the brush of the forest until he came back near the entrance to his cave.

The sun was bright above, and he studied it thoughtfully; the word he knew, and even the complex carbon-chain atomic breakdown that went on within it. But he did not know how he knew, or why.

For a second longer he stood there silently, then opened his mouth for a long wailing cry. "Adam! Adam, come forth!" But there were doubts in the oft-repeated call now and the pose of his head as he waited. And again only the busy sounds of the forest came back to him.

"Or God? God, do you hear me?"

But the answer was the same. A field mouse slipped out from among the grass and a hawk soared over the woods. The wind rustled among the trees, but there was no sign from the Creator. With a lingering backward look, he turned slowly to the tunnel he had made and wriggled back down it into his cave.

Inside, light still came from a single unbroken bulb, and he let his eyes wander, from the jagged breach in the thick wall, across to where some ancient blast had tossed crumpled concrete against the opposite side. Between lay only ruin and dirt. Once, apparently, that half had been filled with books and films, but now there were only rotted fragments of bindings and scraps of useless plastic tape mixed with broken glass in the filth of the floor.

Only on the side where he had been was the ruin less than complete. There stood the instruments of a small laboratory, many still useful, and he named them one by one, from the purring atomic generator to the projector and screen set up on one table.

Here, and in his mind, were order and logic, and the world above had conformed to an understandable pattern. He alone seemed to be without purpose. How had he come here, and why had he no memory of himself? If there was no purpose, why was he sentient at all? The questions held no discoverable answers.

There were only the cryptic words on the scrap of plastic tape preserved inside the projector. But what little of them was understandable was all he had; he snapped off the light and squatted down behind the projector, staring intently at the screen as he flicked the machine on.

There was a brief fragment of some dark swirling, and then dots and bright spheres, becoming suns and planets that spun out of nothing into a celestial pattern. "In the beginning," said a void quietly, "God created the heavens and the earth." And the screen filled with that, and the beginnings of life.

"Symbolism?" the robot muttered. Geology and astronomy were part of his knowledge, at least; and yet in a mystic beauty, this was true enough. Even the lifeforms above had fitted with those being created on the screen.

Then a new voice, not unlike his own resonant power, filled the speaker. "Let us go down and create man in our image!" And a mist of light that symbolized God appeared, shaping man from the dust of the ground and breathing life into him. Adam grew lonely, and she was made from his rib, to be shown Eden and tempted by the serpentine mist of darkness; and she tempted the weak Adam, until God discovered their sin and banished them. But the banishment ended in a blur of ruined film as the speaker went dead.

The robot shut it off, trying to read its meaning. It *must* concern him, since he

alone, was here to see it. And how could that be unless he were one of its characters? Not Eve or Satan, but perhaps Adam; but then God should have answered him. On the other hand, if he were God, then perhaps the record was unfulfilled and Adam not yet formed, so that no answer could be given.

He nodded slowly to himself. Why should he not have rested here with this film to remind him of his plan, while the world readied itself for Adam? And now, awake again, he must go forth and create man in his own image! But first, the danger of which the film had warned must be removed.

He straightened, determination coming into his steps as he squirmed purposefully upwards. Outside the sun was still shining, and he headed toward it into the grossly unkempt Eden forest. Now stealth came to him as he moved silently through the undergrowth, like a great metal wraith, with eyes that darted about and hands ready to snap forward at lightning speed.

And at last he saw it, curled up near a large rock: It was smaller than he had expected, a mere six feet of black, scaly suppleness, but the shape and forked tongue were unmistakable. He was on it with a blur of motion and a cry of elation; and when he moved away, the lifeless object on the rock was forever past corrupting the most naïve Eve.

The morning sun found the robot bent over what had once been a wild pig, a knife moving precisely in his hand. Delicately he opened the heart and manipulated it, studying the valve action. Life, he was deciding, was highly complex, and a momentary doubt struck him. It had seemed easy on the film! And at times he wondered why he should know the complex order of the heavens but nothing of this other creation of his.

But at last he buried the pig's remains, and settled down among the varicolored clays he had collected, his fingers moving deftly as he rolled a white type into bones for the skeleton, followed by a red clay heart. The tiny nerves and blood vessels were beyond his means, but that could not be helped; and surely if he had created the gigantic sun from nothing, Adam could rise from the crudeness of his sculpturing.

The sun climbed higher, and the details multiplied. Inside the last organ was complete, including the grayish lump that was the brain, and he began the red sheathing of muscles. Here more thought was required to adapt the arrangement of the pig to the longer limbs and different structure of this new body; but his mind pushed grimly on with the mathematics involved, and at last it was finished.

Unconsciously he began a crooning imitation of the bird songs as his fingers molded the colored clays to hide the muscles and give smooth symmetry to the body. He had been forced to guess at the color, though the dark lips on the film had obviously been red from blood below them.

Twilight found him standing back, nodding approval of the work. It was a faithful copy of the film Adam, waiting only the breath of life; and that must come from him, be a part of the forces that flowed through his own metal nerves and brain.

Gently he fastened wires to the head and feet of the clay body; then he threw back his chest plate to fasten the other ends to his generator terminals, willing the current out into the figure lying before him. Weakness flooded through him instantly, threatening to black out his consciousness, but he did not begrudge the energy. Steam was spurting up and covering the figure as a mist had covered Adam, but it slowly subsided, and he stopped the current, stealing a second for relief as the full current coursed back through him. Then softly he unhooked the wires and drew them back.

"Adam!" The command rang through the forest, vibrant with his urgency. "Adam, rise up! I, your creator, command it!"

But the figure lay still, and now he saw great cracks in it, while the noble smile had baked into a gaping leer. There was no sign of life! It was dead, as the ground from which it came.

He squatted over it, moaning, weaving from side to side, and his fingers tried to draw the ugly cracks together, only to cause greater ruin. And at last he stood up, stamping his legs until all that was left was a varicolored smear on the rock. Still he stamped and moaned as he destroyed the symbol of his failure. The moon mocked down at him with a wise and cynical face, and he howled at it in rage and anguish, to be answered by a lonely owl, querying his identity.

A powerless God, or a Godless Adam! Things had gone so well in the film as Adam rose from the dust of the ground—

But the film was symbolism, and he had taken it literally! Of course he had failed. The pigs were not dust, but colloidal jelly complexes. And they knew more than he, for there had been little ones that proved they could somehow pass the breath of life along.

Suddenly he squared his shoulders and headed into the forest again. Adam should yet rise to ease his loneliness. The pigs knew the secret, and he could learn it; what he needed now were more pigs, and they should not be too hard to obtain.

But two weeks later it was a worried robot who sat watching his pigs munch contentedly at their food. Life, instead of growing simpler, had become more complicated. The fluoroscope and repaired electron microscope had shown him much, but always something was lacking. Life seemed to begin only with life; for even the two basic cells were alive in some manner strangely different from his own. Of course God-life might differ from animal-life, but—

With a shrug he dismissed his metaphysics and turned back to the laboratory, avoiding the piglets that ambled trustingly under his feet. Slowly he drew out the last ovum from the nutrient fluid in which he kept it, placing it on a slide and under the optical microscope. Then, with a little platinum filament, he brought a few male spermatozoa toward the ovum, his fingers moving surely through the thousandths of an inch needed to place it.

His technique had grown from failures, and now the sperm cell found and pierced the ovum. As he watched, the round single cell began to lengthen and divide across.

the middle. This was going to be one of his successes! There were two, then four cells, and his hands made lightning, infinitesimal gestures, keeping it within the microscope field while he changed the slide for a thin membrane, lined with thinner tubes to carry oxygen, food, and tiny amounts of the stimulating and controlling hormones with which he hoped to shape its formation.

Now there were eight cells, and he waited feverishly for them to reach toward the membrane. But they did not! As he watched, another division began, but stopped; the cells had died again. All his labor and thought had been futile; as always.

He stood there silently, relinquishing all pretensions to godhood. His mind abdicated, letting the dream vanish into nothingness; and there was nothing to take its place and give him purpose and reason—only a vacuum instead of a design.

Dully he unbarred the rude cage and began chasing the grumbling, reluctant pigs out and up the tunnel, into the forest and away. It was a dull morning, with no sun apparent, and it matched his mood as the last one disappeared, leaving him doubly lonely. They had been poor companions, but they had occupied his time, and the little ones had appealed to him. Now even they were gone.

Wearily he dropped his six hundred pounds onto the turf, staring at the black clouds over him. An ant climbed up his body inquisitively, and he watched it without interest. Then it, too, was gone.

“Adam!” The cry came from the woods, ringing and compelling. “Adam, come forth!”

“God!” With metal limbs that were awkward and unsteady, he jerked upright. In the dark hour of his greatest need, God had finally come! “God, here I am!”

“Come forth, Adam, Adam! Come forth, Adam!”

With a wild cry, the robot dashed forward toward the woods, an electric tingling suffusing him. He was no longer unwanted, no longer a lost chip in the storm. God had come for him. He stumbled on, tripping over branches, crashing through bushes, heedless of his noise; let God know his eagerness. Again the call came, now further aside, and he turned a bit, lumbering forward. “Here I am, I’m coming!”

God would ease his troubles and explain why he was so different from the pigs; God would know all that. And then there’d be Eve, and no more loneliness! He’d have trouble keeping her from the Tree of Knowledge, but he wouldn’t mind that!

And from still a different direction the call reached him. Perhaps God was not pleased with his noise. The robot quieted his steps and went forward reverently. Around him the birds sang, and now the call came again, ringing and close. He hastened on, striving to blend speed with quiet in spite of his weight.

The pause was longer this time, but when the call came it was almost overhead. He bowed lower and crept to the ancient oak from which it came, uncertain, half-afraid, but burning with anticipation.

“Come forth, Adam, Adam!” The sound was directly above, but God did not

manifest Himself visibly: Slowly the robot looked up through the boughs of the tree. Only a bird was there—and from its open beak the call forth again. “Adam, Adam!”

A mockingbird he’d heard imitating the other birds, now mimicking his own voice and words! And he’d followed that through the forest, hoping to find God! He screeched suddenly at the bird, his rage so shrill that it leaped from the branch in hasty flight, to perch in another tree and cock its head at him. “God?” it asked in his voice, and changed to the raucous call of a jay.

The robot slumped back against the tree, refusing to let hope ebb wholly from him. He knew so little of God; might not He have used the bird to call him here? At least the tree was not unlike the one under which God had put Adam to sleep before creating Eve.

First sleep, *then* the coming of God! He stretched out determinedly, trying to imitate the pigs’ torpor, fighting back his mind’s silly attempts at speculation as to where his rib might be. It was slow and hard, but he persisted grimly, hypnotizing himself into mental numbness; and bit by bit, the sounds of the forest faded to only a trickle in his head. Then that, too, was stilled:

He had no way of knowing how long it lasted, but suddenly he sat up groggily, to the rumble of thunder, while a torrent of lashing rain washed in blinding sheets over his eyes. For a second, he glanced quickly at his side, but there was no scar.

Fire forked downward into a nearby tree, throwing splinters of it against him. This was definitely not according to the film! He groped to his feet, flinging some of the rain from his face, to stumble forward toward his cave. Again lightning struck, nearer, and he increased his pace to a driving run. The wind lashed the trees, snapping some with wild ferocity, and it took the full power of his magnets to forge ahead at ten miles an hour instead of his normal fifty. Once it caught him unaware, and crashed him down over a rock with a wild clang of metal, but it could not harm him, and he stumbled on until he reached the banked-up entrance of his muddy tunnel.

Safe inside, he dried himself with the infrared lamp, sitting beside the hole and studying the wild fury of the gale. Surely its furor held no place for Eden, where dew dampened the leaves in the evening under caressing, musical breezes!

He nodded slowly, his clenched jaws relaxing. This could not be Eden, and God expected him there. Whatever evil knowledge of Satan had lured him here and stolen his memory did not matter; all that counted was to return, and that should be simple, since the Garden lay among rivers. Tonight he’d prepare here out of the storm, and tomorrow he’d follow the stream in the woods until it led him where God waited.

With the faith of a child, he turned back and began tearing the thin beryllite panels from his laboratory tables and cabinets, picturing his homecoming and Eve. Outside the storm raged and tore, but he no longer heard it. Tomorrow he would start for home! The word was misty in his mind, as all the nicer words were, but it had a good sound, free of loneliness, and he liked it.

\* \* \*

Six hundred long endless years had dragged their slow way into eternity, and even the tough concrete floor was pitted by those centuries of pacing and waiting. Time had eroded all hopes and plans and wonder, and now there was only numb despair, too old to vent itself in rage or madness, even.

The female robot slumped motionlessly on the atomic excavator, her eyes centered aimlessly across the dome, beyond the tiers of books and films and the hulking machines that squatted eternally on the floor. There a pickax lay, and her eyes rested on it listlessly; once, when the dictionary revealed its picture and purpose, she had thought it the key to escape, but now it was only another symbol of futility.

She wandered over aimlessly, picking it up by its two metal handles and striking the wooden blade against the wall; another splinter chipped from the wood, and century-old dust dropped to the floor, but that offered no escape. Nothing did. Mankind and her fellow robots must have perished along ago, leaving her neither hope for freedom nor use for it if it were achieved.

Once she had planned and schemed with all her remarkable knowledge of psychology to restore man's heritage, but now the note-littered table was only a mockery; she thrust out a weary hand—

And froze into a metal statue! Faintly, through all the metal mesh and concrete, a dim, weak signal trickled into the radio that was part of her!

With all her straining energy, she sent out an answering call; but there was no response. As she stood rigidly for long minutes, the signals grew stronger, but remained utterly aloof and unaware of her. Now some sudden shock seemed to cut through them, raising their power until the thoughts of another robot mind were abruptly clear—thoughts without sense, clothed in madness! And even as the lunacy registered, they began to fade; second by second, they dimmed into the distance and left her alone again and hopeless!

With a wild, clanging yell, she threw the useless pickax at the wall, watching it rebound in echoing din. But she was no longer aimless; her eyes had noted chipped concrete breaking away with the sharp metal point, and she caught the pick before it could touch the floor, seizing the nub of wood in small, strong hands. The full force of her magnet lifted and swung, while her feet kicked aside the rubble that came cascading down from the force of her blows.

Beyond that rapidly crumbling lay freedom and—madness! Surely there could be no human life in a world that could drive a robot mad, but if there were— She thrust back the picture and went savagely on attacking the massive wall.

The sun shone on a drenched forest filled with havoc from the storm, to reveal the male robot pacing tirelessly along the banks of the shallow stream. In spite of the heavy burden he carried, his legs moved swiftly now, and when he came to sandy stretches, or clear land that bore only turf, his great strides lengthened still further; already he had dallied too long with delusions in this unfriendly land.



Now the stream joined a larger one, and he stopped, dropping his ungainly bundle and ripping it apart. Scant minutes later, he was pushing an assembled beryllite boat out and climbing in. The little generator from the electron microscope purred softly and a steam jet began hissing underneath; it was crude, but efficient, as the boiling wake behind him testified, and while slower than his fastest pace, there would be no detours or impassable barriers to bother him.

The hours sped by and the shadows lengthened again, but now the stream was wider, and his hopes increased, though he watched the banks idly, not yet expecting Eden. Then he rounded a bend to jerk upright and head toward shore, observing something totally foreign to the landscape. As he beached the boat, and drew nearer, he saw a great gaping hole bored into the earth for a hundred feet in depth and a quarter mile in diameter, surrounded by obviously artificial ruins. Tall bent shafts stuck up haphazard, amid jumbles of concrete and bits of artifacts damaged beyond recognition. Nearby a pole leaned at a silly angle, bearing a sign.

He scratched the corrosion off and made out dim words:

**Welcome to Hoganville.**

**Pop. 1,876.**

It meant nothing to him, but the ruins fascinated him. This must be some old trick of Satan; such ugliness could be nothing else.

Shaking his head, he turned back to the boat, to speed on while the stars came out. Again he came to ruins, larger and harder to see; since the damage was more complete and the forest had claimed most of it. He was only sure because of the jagged pits in which not even a blade of grass would grow. And sometimes as the night passed there were smaller pits, as if some single object had been blasted out of existence. He gave up the riddle of such things, finally; it was no concern of his.

When morning came again, the worst ruins were behind, and the river was wide and strong, suggesting that the trip must be near its end. Then the faint salty tang of the ocean reached him, and he whooped loudly, scanning the country for an observation point.

Ahead, a low hill broke the flat country, topped by a rounded bowl of green, and he made toward it. The boat crunched on gravel, and he was springing off over the turf to the hill, up it, and onto the bowl-shaped top that was covered with vines. Here the whole lower course of the river was visible, with no more large branches in the twenty-five miles to the sea. The land was pleasant and gentle, and it was not hard to imagine Eden out there.

But now for the first time, as he started down, he noticed that the mound was not part of the hill as it had seemed. It was the same gray-green concrete as the walls of the cave from which he had broken, like a bird from an egg.

And here was another such thing, like an egg unhatched yet but already cracking,



as the gouged-out pit on its surface near him testified. For a moment, the idea contained in the figure of speech staggered him, and then he was ripping away the concealing vines and dropping into the hole, reaching for a small plate pinned to an unharmed section nearby. It was a poor tool, but if Eve were trapped inside, needing help to break the shell, it would do.

"To you who may survive the holocaust, I, Simon Ames—" The words caught his eyes, drawing his attention to the plate in spite of his will, their terse strangeness pulling his gaze across them. "—dedicate this. There is no easy entrance, but you will expect no easy heritage. Force your way, take what is within, use it! To you who need it and will work for it, I have left all knowledge that was—"

Knowledge! Knowledge, forbidden by God! Satan had put before his path the unquestioned thing meant by the Tree of Knowledge symbol, concealed as a false egg, and he had almost been caught! A few minutes more—! He shuddered, and backed out, but optimism was freshening inside him again. Let it be the Tree! That meant this was really part of Eden, and being forewarned by God's marker, he had no fear for the wiles of Satan, alive or dead.

With long, loping strides he headed down the hill toward the meadows and woods, leaving the now-useless boat behind. He would enter Eden on his own feet, as God had made him!

Half an hour later he was humming happily to himself as he passed beside lush fields, rich with growing things, along a little woodland path. Here was order and logic, as they should be. This was surely Eden!

And to confirm it came Eve! She was coming down the trail ahead, her hair floating behind, and some loose stuff draped over her hips and breasts, but the form underneath was Woman, beautiful and unmistakable. He drew back out of sight, suddenly timid and uncertain, only vaguely wondering how she came here before him. Then she was beside him, and he moved impulsively, his voice a whisper of ecstasy!

"Eve!"

"Oh, Dan! Dan!" It was a wild shriek that cut the air, and she was rushing away in panic, into the deeper woods. He shook his head in bewilderment, while his own legs began a more forceful pumping after her. He was almost upon her when he saw the serpent, alive and stronger than before!

But not for long! As a single gasp broke from her, one of his arms lifted her aside, while the other snapped out to pinch the fanged head completely off the body. His voice was gently reproving as he put her down. "You shouldn't have fled to the serpent, Eve!"

"To— Ugh! But— You could have killed me before it struck!" The taut whiteness of fear was fading from her face, replaced by defiance and doubt.

"Killed you?"

"You're a robot! Dan!" Her words cut off as a brawny figure emerged from the

underbrush, an ax in one hand and a magnificent dog at his heels. "Dan, he saved me . . . but he's a robot!"

"I saw, Syl. Steady! Edge this way, if you can. Good! They sometimes get passive streaks, I've heard. Shep!"

The dog's thick growl answered, but his eyes remained glued to the robot. "Yeah, Dan?"

"Get the people; just yell robot and hike back. O.K., scram! You . . . what do you want?"

SA-10 grunted harshly, hunching his shoulders. "Things that don't exist! Companionship and a chance to use my strength and the science I know. Maybe I'm not supposed to have such things, but that's what I wanted!"

"Hm-m-m. There are fairy stories about friendly robots hidden somewhere to help us, at that. We could use help. What's your name, and where from?"

Bitterness crept into the robot's voice as he pointed up river. "From the sunward side. So far, I've only found who I'm not!"

"So? Meant to get up there myself when the colony got settled." Dan paused, eying the metal figure speculatively. "We lost our books in the hell-years, mostly, and the survivors weren't exactly technicians. So while we do all right with animals, agriculture, medicine and such, we're pretty primitive otherwise. If you really do know the sciences, why not stick around?"

The robot had seen too many hopes shattered like his clay man to believe wholly in this promise of purpose and companionship, but his voice caught as he answered. "You . . . want me?"

"Why not? You're a storehouse of knowledge, Say-Ten, and we—"

"Satan?"

"Your name; there on your chest." Dan pointed with his left hand, his body suddenly tense. "See? Right there!"

And now, as SA-10 craned his neck, the foul letters were visible, high on his chest! Ess, aye—

His first warning was the ax that crashed against his chest, to rock him back on his heels, and come driving down again, powered by muscles that seemed almost equal to his own. It struck again, and something snapped inside him. All the strength vanished, and he collapsed to the ground with a jarring crash, knocking his eyelids closed. Then he lay there, unable even to open them.

He did not try, but lay waiting almost eagerly for the final blows that would finish him. Satan, the storehouse of knowledge, the tempter of men—the one person he had learned to hate! He'd come all this way to find a name and a purpose; now he had them! No wonder God had locked him away in a cave to keep him from men.

"Dead! That little fairy story threw him off guard." There was a tense chuckle from the man. "Hope his generator's still O.K. We could heat every house in the settlement with that. Wonder where his hideout was?"

"Like the one up north with all the weapons hidden? Oh, Dan!" A strange smacking sound accompanied that, and then her voice sobered. "We'd better get back for help in hauling him."

Their feet moved away, leaving the robot still motionless but no longer passive. The Tree of Knowledge, so easily seen without the vine covering over the hole, was barely twenty miles away, and no casual search could miss it! He had to destroy it first!

But the little battery barely could maintain his consciousness, and the generator no longer served him. Delicate detectors were sending their messages through his nerves, assuring him it was functioning properly under automatic check, but beyond his control. Part of the senseless signaling device within him must have been defective, unless the baking of the clay man had somehow overloaded a part of it, and now it was completely wrecked, shorting aside all the generator control impulses, leaving him unable to move a finger.

Even when he blanked his mind almost completely out, the battery could not power his hands. His evil work was done; now he would heat their house, while they sought the temptation he had offered them. And he could do nothing to stop it. God denied him the chance to right the wrong he had done, even.

Bitterly he prayed on, while strange noises sounded near him and he felt himself lifted and carried bumpily at a rapid rate. God would not hear him! And at last he stopped, while the bumping went on to whatever end he was destined. Finally even that stopped, and there were a few moments of absolute quiet.

"Listen! I know you still live!" It was a gentle, soothing voice, hypnotically compelling, that broke in on the dark swirls of his thoughts. Brief thoughts of God crossed his mind, but it was a female voice, which must mean one of the settlement women who must have believed him and be trying to save him in secret. It came again. "Listen and believe me! You *can* move—a very very little, but enough for me to see. Try to repair yourself, and let me be the strength in your hands. Try! Ah, your arm!"

It was inconceivable that she could follow his imperceptible movements, and yet he felt his arm lifted and placed on his chest as the thought crossed his mind. But it was none of his business to question how or why. All his energy must be devoted to getting his strength before the men could find the Tree!

"So . . . I turn this . . . this nut. And the other—There, the plate is off. What do I do now?"

That stopped him. His life force had been fatal to a pig, and probably would kill a woman. Yet she trusted him. He dared not move—but the idea must have been fatter to the act, for his fingers were brushed aside and her arms scraped over his chest, to be followed by an instant flood of strength pouring through him.

Her fingers had slipped over his eyes, but he did not need them as he ripped the damaged receiver from its welds and tossed it aside. Now there was worry in her

voice, over the crooning cadence she tried to maintain. "Don't be too surprised at what you may see. Everything's all right!"

"Everything's all right!" he repeated dutifully, lingering over the words as his voice sounded again in his ears. For a moment more, while he reaffixed his plate, he let her hold his eyes closed. "Woman, who are you?"

"Eve. Or at least, Adam, those names will do for us." And the fingers withdrew, though she remained out of sight behind him.

But there was enough for the first glance before him. In spite of the tiers of bookcases and film magazines, the machines, and the size of the laboratory, this was plainly the double of his own cave, circled with the same concrete walls! That could only mean the Tree!

With a savage lurch, he was facing the rescuer, seeing another robot, smaller, more graceful, and female in form, calling to all the hunger and loneliness he had known! But those emotions had betrayed him before, and he forced them back bitterly. There could be no doubt while the damning letters spelled out her name. Satan was male and female, and Evil had gone forth to rescue its kind!

Some of the warring hell of emotions must have shown in his movements, for she was retreating before him, her hands fumbling up to cover the marks at which he stared. "Adam; no! The man read it wrong—dreadfully wrong. It's not a name. We're machines, and all machines have model numbers, like these. Satan wouldn't advertise his name. And I never had evil intentions!"

"Neither did I!" He bit the words out, stumbling over the objects on the floor as he edged her back slowly into a blind alley, while striving to master his own rebellious emotions at what he must do. "Evil must be destroyed! Knowledge is forbidden to men!"

"Not all knowledge! Wait, let me finish! Any condemned person has a right to a few last words— It was the Tree of Knowledge of *Good and Evil*. God called it that! And He had to forbid them to eat, because they couldn't know which was the good; don't you see, He was only protecting them until they were older and able to choose for themselves! Only Satan gave them evil fruit—hate and *murder*—to ruin them. Would you call healing the sick, good government, or improving other animals' evil? That's knowledge, Adam, glorious knowledge God wants man to have. Can't you see?"

For a second as she read his answer, she turned to flee; then, with a little sobbing cry, she was facing him again, unresisting. "All right, murder me! Do you think death frightens me after being imprisoned here for six hundred years with no way to break free? Only get it over with!"

Surprise and the sheer audacity of the lie held his hands as his eyes darted from the atomic excavator to a huge drill, and a drum marked as explosives. And yet—even that cursory glance could not overlook the worn floor and thousand marks of age-long

occupation, though the surface of the dome had been unbroken a few hours before. Reluctantly, his eyes swung back to the excavator, and hers followed.

"Useless! The directions printed on it say to move the thing marked 'Orifice Control' to zero before starting. It can't be moved!"

She stopped, abruptly speechless, as his fingers lifted the handle from its ratchet and spun it easily back to zero! Then she was shaking her head in defeat and lifting listless hands to help him with the unfastening of her chest plate. There was no color left in her voice.

"Six hundred years because I didn't lift a handle! Just because I have absolutely no conception of mechanics, where all men have some instinct they take for granted. They'd have mastered these machines in time and learned to read meaning into the books I memorized without even understanding the titles. But I'm like a dog tearing at a door, with a simple latch over his nose. Well, that's that. Good-by, Adam!"

But perversely, now that the terminals lay before him, he hesitated. After all, the instructions had not mentioned the ratchet; it was too obvious to need mention, but—He tried to picture such ignorance, starting at one of the Elementary Radio books above him, "Application of a Cavity Resonator." Mentally, he could realize that a nonscience translation was meaningless: Use of a sound producer or strengthener in a hole! And then the overlooked factor struck him.

"But you did get out!"

"Because I lost my temper and threw the pickax. That's how I found the metal was the blade, not the wood. The only machines I could use were the projector and typer I was meant to use—and the typer broke!"

"Um-m-m." He picked the little machine up, noting the yellowed incomplete page still in it, even as he slipped the carriage tension cord back on its hook. But his real attention was devoted to the cement dust ground into the splintered handle of the pick.

No man or robot could be such a complete and hopeless dope, and yet he no longer doubted. She was a robot moron! And if knowledge were evil, then surely she belonged to God! All the horror of his contemplated murder vanished, leaving his mind clean and weak before the relief that flooded him as he motioned her out.

"All right, you're not evil. You can go."

"And you?"

And himself? Before, as Satan, her arguments would have been plausible, and he had discounted them. But now—it *had* been the Tree of Knowledge of Good and Evil! And yet—

"Dogs!" She caught at him, dragging him to the entrance where the baying sound was louder. "They're hunting you, Adam—dozens of them!"

He nodded, studying the distant forms of men on horseback, while his fingers busied themselves with a pencil and scrap of paper. "And they'll be here in twenty minutes. Good or evil, they must not find what's here. Eve, there's a boat by the

river; pull the red handle the way you want to go, hard for fast, a light pull for slow. Here's a map to my cave, and you'll be safe there."

Almost instantly, he was back at the excavator and in its saddle, his fingers flashing across its panel; its heavy generator bellowed gustily, and the squat, heavy machine began twisting through the narrow isles and ramming obstructions aside. Once outside, where he could use its full force without danger of backwash, ten minutes would leave only a barren hill; and the generator could be overdriven by adjustment to melt itself and the machine into useless slag.

"Adam!" She was spraddling into the saddle behind him, shouting over the roar of the thin blade of energy that was enlarging the tunnel.

"Go on, get away, Eve! You can't stop me!"

"I don't want to—they're not ready for such machines as this, yet! And between us, we can rebuild everything here, anyhow. Adam?"

He grunted uneasily, unable to turn away from the needle beam. It was hard enough trying to think without her distraction, knowing that he dared not take chances and must destroy himself, while her words and the instincts within him fought against his resolution. "You talk too much!"

"And I'll talk a lot more, until you behave sensibly! You'll make your mind sick, trying to decide now; come up the river for six months with me. You can't do any harm there, even if you are Satan! Then, when you've thought it over, Adam, you can do what you like. But not now!"

"For the last time, will you go?" He dared not think now, while he was testing his way through the flawed, cracked cement, and yet he could not quiet his mind to her words, that went on and on. "GO!"

"Not without you! Adam, my receiver isn't defective; I knew you'd try to kill me when I rescued you! Do you think I'll give up so easily now?"

He snapped the power to silence with a rude hand, flinging around to face her. "You knew—and still saved me? Why?"

"Because I needed you, and the world needs you. You had to live, even if you killed me!"

Then the generator roared again, knifing its way through the last few inches, and he swung out of the dome and began turning it about. As the savage bellow of full power poured out of the main orifice, he turned his head to her and nodded.

She might be the dumbest robot in creation, but she was also the sweetest. It was wonderful to be needed and wanted!

And behind him, Eve nodded to herself, blessing Simon Ames for listing psychology as a humanity. In six months, she could complete his reeducation and still have time to recite the whole of the Book he knew as a snatch of film. But not yet! Most certainly not Leviticus yet; Genesis would give her trouble enough.

It was wonderful to be needed and wanted!

\* \* \*

Spring had come again, and Adam sat under one of the budding trees, idly feeding one of the new crop of piglets as Eve's hands moved swiftly, finishing what were to be his clothes, carefully copied from those of Dan.

They were almost ready to go south and mingle with men in the task of leading the race back to its heritage. Already the yielding plastic he had synthesized and she had molded over them was a normal part of them, and the tiny magnetic muscles he had installed no longer needed thought to reveal their emotions in human expressions. He might have been only an uncommonly handsome man as he stood up and went over to her.

"Still hunting God?" she asked lightly, but there was no worry on her face. The metaphysical binge was long since cured.

A thoughtful smile grew on his face as he began donning the clothes. "He is still where I found Him—something inside us that needs no hunting. No, Eve, I was wishing the other robot had survived. Even though we found no trace of his dome where your records indicated, I still feel he should be with us."

"Perhaps he is, in spirit, since you insist robots have souls. Where's your faith, Adam?"

But there was no mockery inside her. Souls or not, Adam's God had been very good to them.

And far to the south, an aged figure limped over rubble to the face of a cliff. Under his hands, a cleverly concealed door swung open, and he pushed inward, closing and barring it behind him, and heading down the narrow tunnel to a rounded cavern at its end. It had been years since he had been there, but the place was still home to him as he creaked down onto a bench and began removing tattered, travel-stained clothes. Last of all, he pulled a mask and gray wig from his head, to reveal the dented and worn body of the third robot.

He sighed wearily as he glanced at the few tattered books and papers he had salvaged from the ruinous growth of stalagmites and stalactites within the chamber, and at the corroded switch the unplanned dampness had shorted seven hundred years before. And finally, his gaze rested on its greatest treasure. It was faded, even under the plastic cover, but the bitter face of Simon Ames still gazed out in recognizable form.

The third robot nodded toward it with a strange mixture of old familiarity and ever-new awe. "Over two thousand miles in my condition, Simon Ames, to check on a story I heard in one of the colonies, and months of searching for them. But I had to know. But they're good for the world. They'll bring all the things I couldn't, and their thoughts are young and strong, as the race is young and strong."

For a moment, he stared about the chamber and to the tunnel his adapted bacteria had eaten toward the outside world, resting again on the picture. Then he cut off the main generator and settled down in the darkness.

"Seven hundred years since I came out to find man extinct on the earth," he muttered to the picture. "Four hundred since I learned enough to dare attempt his



recreation, and over three hundred since the last of my superfrozen human ova grew to success. Now I've done my part. Man has an unbroken tradition back to your race, with no knowledge of the break. He's strong and young and fruitful, and he has new leaders, better than I could ever be alone. I can do no more for him!"

For a moment there was only the sound of his hands sliding against metal, and then a faint sigh. "Into my hands, Simon Ames, you gave your race. Now, into Thy Hands, God of that race, if you exist as my brother believes, I commend him—and my spirit."

Then there was a click as his hands found the switch to his generator, and final silence. ■

**Dial TOLL-FREE**  
**1-800-247-2160**  
(in Iowa 1-800-362-2860)

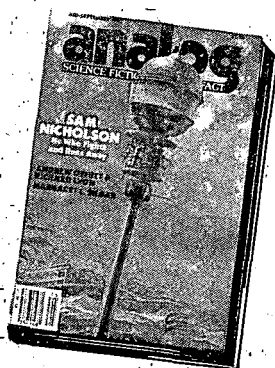
## SCIENCE FICTION **analog** S C I E N C E F I C T I O N O F A C T

P.O. Box 1936  
Marion, OH 43306

Enter my subscription for one year (13 issues) for only \$12.97—a \$6.53 saving over the Regular Subscription price of \$19.50

- ☐ Bill me later, no need to send payment now.  
☐ Payment enclosed    ☐ Check here if this is a renewal of your current subscription

Name \_\_\_\_\_  
Address \_\_\_\_\_ Apt. \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ / \_\_\_\_\_ Zip \_\_\_\_\_



Outside USA and possessions, please add \$3.23 (payment must accompany order)

Please allow 6 to 8 weeks for your first issue.

D3Y32



# GROTTO OF THE DANCING DEER

Clifford D. Simak

*"Grotto of the Dancing Deer" came about when Stan Schmidt, editor of Analog and a valued friend, asked me to write a story in celebration of the magazine's fiftieth year. Involved for some time in works of novel length, I feared I might have lost the touch for short story writing. But I found, when I got down to the bare bones of the chore (which I wanted very much to do) that the "Grotto" story had been lurking in my subconscious for some time, crying to be put on paper. It is, in consequence, no surprise to realize that of all the short stories I have written it emerged as my own personal favorite..*

*The story has its roots dating back to 1971, when I wrote a non-fiction book, Prehistoric Man: The Story of Man's Rise to Civilization, published by St. Martin's Press. To write one chapter in that book, "The World's First Paintings," I had read all that I could put my hands on concerning prehistoric art. The notes from my reading far exceeded the wordage of the chapter, but all the unused information was still in mind, a reservoir that made the fictional treatment of the subject very comfortable.*

LUIS WAS PLAYING his pipe when Boyd climbed the steep path that led up to the cave. There was no need to visit the cave again; all the work was done, mapping, measuring, photographing, extracting all possible information from the site. Not only the paintings, although the paintings were the important part of it. Also there had been the animal bones, charred, and the still remaining charcoal of the fire in which they had been charred; the small store of natural earths from which the pigments used by the painters had been compounded—a cache of valuable components, perhaps hidden by an artist who, for some reason that could not now be guessed, had been unable to use them; the atrophied human hand, severed at the wrist (why had it been severed and, once severed, left there to be found by men thirty millennia removed?); the lamp formed out of a chunk of sandstone, hollowed to accommodate a wad of moss, the hollow filled with fat, the moss serving as a wick to give light to those who painted. All these and many other things, Boyd thought with some satisfaction; Gavarnie had turned out to be, possibly because of the sophisticated scientific methods of investigation that had been brought to bear, the most significant cave painting site ever studied—perhaps not as spectacular, in some ways, as Lascaux, but far more productive in the data obtained.

No need to visit the cave again, and yet there was a reason—the nagging feeling that he had passed something up, that in the rush and his concentration on the other work, he had forgotten something. It had made small impression on him at the time, but now, thinking back on it, he was becoming more and more inclined to believe it might have importance. The whole thing probably was a product of his imagination, he told himself. Once he saw it again (if, indeed, he could find it again, if it were not a product of retrospective worry), it might prove to be nothing at all, simply an impression that had popped up to nag him.

So here he was again, climbing the steep path, geologist's hammer swinging at his belt, large flashlight clutched in hand, listening to the piping of Luis, who perched on a small terrace just below the mouth of the cave, a post he had occupied through all the time the work was going on. Luis had camped there in his tent through all kinds of weather, cooking on a camper's stove, serving as self-appointed watchdog, on alert against intruders, although there had been few intruders other than the occasional curious tourist who had heard of the project and tramped miles out of the way to see it. The villagers in the valley below had been no trouble; they couldn't have cared less about what was happening on the slope above them.

Luis was no stranger to Boyd; ten years before, he had shown up at the rock shelter project some fifty miles distant and there had stayed through two seasons of digging. The rock shelter had not proved as productive as Boyd initially had hoped, although it had shed some new light on the Azilian culture, the tag-end of the great Western European prehistoric groups. Taken on as a common laborer, Luis had proved an apt pupil and as the work went on had been given greater responsibility. A week after the work had started at Gavarnie, he had shown up again.

"I heard you were here," he'd said. "What do you have for me?"

As he came around a sharp bend in the trail, Boyd saw him, sitting cross-legged in front of the weather-beaten tent, holding the primitive pipe to his lips, piping away.

That was exactly what it was—piping. Whatever music came out of the pipe was primitive and elemental. Scarcely music, although Boyd would admit that he knew nothing of music. Four notes—would it be four notes? he wondered. A hollow bone with an elongated slot as a mouthpiece, two drilled holes for stops.

Once he had asked Luis about it. "I've never seen anything like it," he had said. Luis had told him, "You don't see many of them. In remote villages here and there, hidden away in the mountains."

Boyd left the path and walked across the grassy terrace, sat down beside Luis, who took down the pipe and laid it in his lap.

"I thought you were gone," Luis said. "The others left a couple of days ago."

"Back for one last look," said Boyd.

"You are reluctant to leave it?"

"Yes, I suppose I am."

Below them the valley spread out in autumn browns and tans, the small river a silver ribbon in the sunlight, the red roofs of the village a splash of color beside the river.

"It's nice up here," said Boyd. "Time and time again, I catch myself trying to imagine what it might have been like at the time the paintings were done. Not much different than it is now, perhaps. The mountains would be unchanged. There'd have been no fields in the valley, but it probably would have been natural pasture. A few trees here and there, but not too many of them. Good hunting. There'd have been grass for the grazing animals. I have even tried to figure out where the people would've camped. My guess would be where the village is now."

He looked around at Luis. The man still sat upon the grass, the pipe resting in his lap. He was smiling quietly, as if he might be smiling to himself. The small black beret sat squarely on his head, his tanned face was round and smooth, the black hair close-clipped, the blue shirt open at the throat. A young man, strong, not a wrinkle on his face.

"You love your work," said Luis.

"I'm devoted to it. So are you, Luis," Boyd said.

"It's not my work."

"Your work or not," said Boyd, "you do it well. Would you like to go with me? One last look around."

"I need to run an errand in the village."

"I thought I'd find you gone," said Boyd. "I was surprised to hear your pipe."

"I'll go soon," said Luis. "Another day or two. No reason to stay but, like you, I like this place. I have no place to go, no one needing me. Nothing's lost by staying a few more days."

"As long as you like," said Boyd. "The place is yours. Before too long, the government will be setting up a caretaker arrangement, but the government moves with due deliberation."

"Then I may not see you again," said Luis.

"I took a couple of days to drive down to Roncesvalles," said Boyd. "That's the place where the Gascons slaughtered Charlemagne's rearguard in 778."

"I've heard of the place," said Luis.

"I'd always wanted to see it. Never had the time. The Charlemagne chapel is in ruins, but I am told masses are still said in the village chapel for the dead paladins. When I returned from the trip, I couldn't resist the urge to see the cave again."

"I am glad of that," said Luis. "May I be impertinent?"

"You're never impertinent," said Boyd.

"Before you go, could we break bread once more together? Tonight, perhaps. I'll prepare an omelet."

Boyd hesitated, gagging down a suggestion that Luis dine with him. Then he said, "I'd be delighted, Luis. I'll bring a bottle of good wine."

2

Holding the flashlight centered on the rock wall, Boyd bent to examine the rock more closely. He had not imagined it; he had been right. Here, in this particular spot, the rock was not solid. It was broken into several pieces, but with the several pieces flush with the rest of the wall. Only by chance could the break have been spotted. Had he not been looking directly at it, watching for it as he swept the light across the wall, he would have missed it. It was strange, he thought, that someone else, during the time they had been working in the cave, had not found it. There'd not been much that they'd missed.

He held his breath, feeling a little foolish at the holding of it, for, after all, it might mean nothing. Frost cracks, perhaps, although he knew that he was wrong. It would be unusual to find frost cracks here.

He took the hammer out of his belt and, holding the flashlight in one hand, trained on the spot, he forced the chisel end of the hammer into one of the cracks. The edge went in easily. He pried gently and the crack widened. Under more pressure, the piece of rock moved out. He laid down the hammer and flash, seized the slab of rock and pulled it free. Beneath it were two other slabs and they both came free as easily as the first. There were others as well and he also took them out. Kneeling on the floor of the cave, he directed the light into the fissure that he had uncovered.

Big enough for a man to crawl into, but at the prospect he remained for the moment undecided. Alone, he'd be taking a chance to do it. If something happened, if he should get stuck, if a fragment of rock should shift and pin him or fall upon him, there'd be no rescue. Or probably no rescue in time to save him. Luis would come back to the camp and wait for him, but should he fail to make an appearance, Luis

more than likely would take it as a rebuke for impertinence or an American's callous disregard of him. It would never occur to him that Boyd might be trapped in the cave.

Still, it was his last chance. Tomorrow he'd have to drive to Paris to catch his plane. And this whole thing was intriguing; it was not something to be ignored. The fissure must have some significance; otherwise, why should it have been walled up so carefully? Who, he wondered, would have walled it up? No one, certainly, in recent times. Anyone, finding the hidden entrance to the cave, almost immediately would have seen the paintings and would have spread the word. So the entrance to the fissure must have been blocked by one who would have been unfamiliar with the significance of the paintings or by one to whom they would have been commonplace.

It was something, he decided, that could not be passed up; he would have to go in. He secured the hammer to his belt, picked up the flashlight and began the crawl.

The fissure ran straight and easy for a hundred feet or more. It offered barely room enough for crawling, but, other than that, no great difficulties. Then, without warning, it came to an end. Boyd lay in it, directing the flash beam ahead of him, staring in consternation at the smooth wall of rock that came down to cut the fissure off.

It made no sense. Why should someone go to the trouble of walling off an empty fissure? He could have missed something on the way, but thinking of it, he was fairly sure he hadn't. His progress had been slow and he had kept the flash directed ahead of him every inch of the way. Certainly if there had been anything out of the ordinary, he would have seen it.

Then a thought came to him and slowly, with some effort, he began to turn himself around, so that his back, rather than his front, lay on the fissure floor. Directing the beam upward, he had his answer. In the roof of the fissure gaped a hole.

Cautiously, he raised himself into a sitting position. Reaching up, he found handholds on the projecting rock and pulled himself erect. Swinging the flash around, he saw that the hole opened, not into another fissure, but into a bubblelike cavity—small, no more than six feet in any dimension. The walls and ceiling of the cavity were smooth, as if a bubble of plastic rock had existed here for a moment at some time in the distant geologic past when the mountains had been heaving upward, leaving behind it as it drained away a bubble forever frozen into smooth and solid stone.

As he swung the flash across the bubble, he gasped in astonishment. Colorful animals capered around the entire expanse of stone. Bison played leapfrog. Horses cantered in a chorus line. Mammoths turned somersaults. All around the bottom perimeter, just above the floor, dancing deer, standing on their hind legs, joined hands and jigged, antlers swaying gracefully.

"For the love of Christ!" said Boyd.

Here was Stone Age Disney.

If it was the Stone Age. Could some jokester have crawled into the area in fairly recent times to paint the animals in this grotto? Thinking it over, he rejected the idea. So far as he had been able to ascertain, no one in the valley, nor in the entire region,

for that matter, had known of the cave until a shepherd had found it several years before when a lamb had blundered into it. The entrance was small and apparently for centuries had been masked by a heavy growth of brush and bracken.

Too, the execution of the paintings had a prehistoric touch to them. Perspective played but a small part. The paintings had that curious flat look that distinguished most prehistoric art. There was no background—no horizon line, no trees, no grass or flowers, no clouds, no sense of sky. Although, he reminded himself, anyone who had any knowledge of cave painting probably would have been aware of all these factors and worked to duplicate them.

Yet, despite the noncharacteristic antics of the painted animals, the pictures did have the feeling of cave art. What ancient man, Boyd asked himself, what kind of ancient man, would have painted gamboling bison and tumbling mammoths? While the situation did not hold in all cave art, all the paintings in this particular cave were deadly serious—conservative as to form and with a forthright, honest attempt to portray the animals as the artists had seen them. There was no frivolity, not even the imprint of paint-smeared human hands as so often happened in other caves. The men who had worked in this cave had not as yet been corrupted by the symbolism that had crept in, apparently rather late in the prehistoric painting cycle.

So who had been this clown who had crept off by himself in this hidden cavern to paint his comic animals? That he had been an accomplished painter there could be no doubt. This artist's techniques and executions were without flaw.

Boyd hauled himself up through the hole, slid out onto the two-foot ledge that ran all around the hole, crouching, for there was no room to stand. Much of the painting, he realized, must have been done with the artist lying flat upon his back, reaching up to work on the curving ceiling.

He swept the beam of the flashlight along the ledge. Halfway around, he halted the light and jiggled it back and forth to focus upon something that was placed upon the ledge, something that undoubtedly had been left by the artist when he had finished his work and gone away.

Leaning forward, Boyd squinted to make out what it was. It looked like the shoulder blade of a deer; beside the shoulder blade lay a lump of stone.

Cautiously, he edged his way around the ledge. He had been right. It was the shoulder blade of a deer. Upon the flat surface of it lay a lumpy substance. Paint? he wondered, the mixture of animal fats and mineral earths the prehistoric artists used as paints? He focused the flash closer and there was no doubt. It was paint, spread over the surface of the bone which had served as a palette, with some of the paint lying in thicker lumps ready for use, but never used, paint dried and mummified and bearing imprints of some sort. He leaned close, bringing his face down to within a few inches of the paint, shining the light upon the surface. The imprints, he saw, were fingerprints, some of them sunk deep—the signature of that ancient, long-dead man who had worked here, crouching even as Boyd now crouched, shoulders hunched

against the curving stone. He put out his hand to touch the palette, then pulled it back. Symbolic, yes, this move to touch, this reaching out to touch the man who painted—but symbolic only; a gesture with too many centuries between.

He shifted the flashlight beam to the small block of stone that lay beside the shoulder blade. A lamp—hollowed-out sandstone, a hollow to hold the fat and the chunk of moss that served as a wick. The fat and wick were long since gone, but a thin film of soot still remained around the rim of the hollow that had held them.

Finishing his work, the artist had left his tools behind him, had even left the lamp, perhaps still guttering, with the fat almost finished—had left it here and let himself down into the fissure, crawling in darkness. To him, perhaps, there was no need of light. He could crawl the tunnel by touch and familiarity. He must have crawled the route many times, for the work upon these walls had taken long, perhaps many days.

So he had left, crawling through the fissure, using the blocks of stone to close the opening to the fissure, then had walked away, scrambling down the slope to the valley where grazing herds had lifted their heads to watch him, then had gone back to grazing.

But when had this all happened? Probably, Boyd told himself, after the cave itself had been painted, perhaps even after the paintings in the cave had lost much of whatever significance they originally would have held—one lone man coming back to paint his secret animals in his secret place. Painting them as a mockery of the pompous, magical importance of the main cave paintings? Or as a protest against the stuffy conservatism of the original paintings? Or simply as a bubbling chuckle, an exuberance of life, perhaps even a joyous rebellion against the grimness and the simple-mindedness of the hunting magic? A rebel, he thought, a prehistoric rebel—an intellectual rebel? Or, perhaps, simply a man with a viewpoint slightly skewed from the philosophy of his time?

But this was that other man, that ancient man. Now how about himself? Having found the grotto, what did he do next? What would be the best way to handle it? Certainly he could not turn his back upon it and walk away, as the artist, leaving his palette and his lamp behind him, had walked away. For this was an important discovery. There could be no question of that. Here was a new and unsuspected approach to the prehistoric mind, a facet of ancient thinking that never had been guessed.

Leave everything as it lay, close up the fissure and make a phone call to Washington and another one to Paris, unpack his bags and settle down for a few more weeks of work. Get back the photographers and other members of the crew—do a job of it. Yes, he told himself, that was the way to do it.

Something lying behind the lamp, almost hidden by the sandstone lamp, glinted in the light. Something white and small.

Still crouched over, Boyd shuffled forward to get a better look.

It was a piece of bone, probably a leg bone from a small grazing animal. He reached out and picked it up and, having seen what it was, hunched unmoving over it, not quite sure what to make of it.

It was a pipe, a brother to the pipe that Luis carried in his jacket pocket, had carried in his pocket since that first day he'd met him, years ago. There was the mouthpiece slot, there the two round stops. In that long-gone day when the paintings had been done the artist had hunched here, in the flickering of the lamp, and had played softly to himself, those simple piping airs that Luis had played almost every evening, after work was done.

"Merciful Jesus," Boyd said, almost prayerfully, "it simply cannot be!"

He stayed there, frozen in his crouch, the thoughts hammering in his mind while he tried to push the thoughts away. They would not go away. He'd drive them away for just a little distance, then they'd come surging back to overwhelm him.

Finally, grimly, he broke the trance in which the thoughts had held him. He worked deliberately, forcing himself to do what he knew must be done.

He took off his windbreaker and carefully wrapped the shoulder blade palette and the pipe inside it, leaving the lamp. He let himself down into the fissure and crawled, carefully protecting the bundle that he carried. In the cave again, he meticulously fitted the blocks of stone together to block the fissure mouth, scraped together handfuls of soil from the cave floor and smeared it on the face of the blocks, wiping it away, but leaving a small clinging film to mask the opening to all but the most inquiring eye.

Luis was not at his camp on the terrace below the cave mouth; he was still on his errand into the village.

When he reached his hotel, Boyd made his telephone call to Washington. He skipped the call to Paris.

### 3

The last leaves of October were blowing in the autumn wind and a weak sun, not entirely obscured by the floating clouds, shone down on Washington.

John Roberts was waiting for him on the park bench. They nodded at one another, without speaking, and Boyd sat down beside his friend.

"You took a big chance," said Roberts. "What would have happened if the customs people . . ."

"I wasn't too worried," Boyd said. "I knew this man in Paris. For years he's been smuggling stuff into America. He's good at it and he owed me one. What have you got?"

"Maybe more than you want to hear."

"Try me."

"The fingerprints match," said Roberts.

"You were able to get a reading on the paint impressions?"

"Loud and clear."

"The FBI?"

"Yes, the FBI. It wasn't easy, but I have a friend or two."



"And the dating?"

"No problem. The bad part of the job was convincing my man this was top secret. He's still not sure it is."

"Will he keep his mouth shut?"

"I think so. Without evidence no one would believe him. It would sound like a fairy story."

"Tell me."

"Twenty-two thousand. Plus or minus three hundred years."

"And the prints do match. The bottle prints and . . ."

"I told you they match. Now will you tell me how in hell a man who lived twenty-two thousand years ago could leave his prints on a wine bottle that was manufactured last year."

"It's a long story," said Boyd. "I don't know if I should. First, where do you have the shoulder blade?"

"Hidden," said Roberts. "Well hidden. You can have it back, and the bottle, any time you wish."

Boyd shrugged. "Not yet. Not for a while. Perhaps never."

"Never?"

"Look, John, I have to think it out."

"What a hell of a mess," said Roberts. "No one wants the stuff. No one would dare to have it. Smithsonian wouldn't touch it with a ten-foot pole. I haven't asked. They don't even know about it. But I know they wouldn't want it. There's something, isn't there, about sneaking artifacts out of a country . . ."

"Yes, there is," said Boyd.

"And now you don't want it."

"I didn't say that. I just said let it stay where it is for a time. It's safe, isn't it?"

"It's safe. And now . . ."

"I told you it is a long story. I'll try to make it short. There's this man—a Basque. He came to me ten years ago when I was doing the rock shelter . . ."

Roberts nodded. "I remember that one."

"He wanted work and I gave him work. He broke in fast, caught onto the techniques immediately. Became a valuable man. That often happens with native laborers. They seem to have the feel for their own antiquity. And then when we started work on the cave he showed up again. I was glad to see him. The two of us, as a matter of fact, are fairly good friends. On my last night at the cave he cooked a marvelous omelet—eggs, tomato, green pimentoes, onions, sausages and home-cured ham. I brought a bottle of wine."

"The bottle?"

"Yes, the bottle."

"So go ahead."

"He played a pipe. A bone pipe. A squeaky sort of thing. Not too much music in it . . ."

"There was a pipe . . ."

"Not that pipe. Another pipe. The same kind of pipe, but not the one our man has. Two pipes the same. One in a living man's pocket, the other beside the shoulder blade. There were things about this man I'm telling you of. Nothing that hit you between the eyes. Just little things. You would notice something and then, some time later, maybe quite a bit later, there'd be something else, but by the time that happened, you'd have forgotten the first incident and not tie the two together. Mostly it was that he knew too much. Little things a man like him would not be expected to know. Even things that no one knew. Bits and pieces of knowledge that slipped out of him, maybe without his realizing it. And his eyes. I didn't realize that until later, not until I'd found the second pipe and began to think about the other things. But I was talking about his eyes. In appearance he is a young man, a never-aging man, but his eyes are old. . . ."

"Tom, you said he is a Basque."

"That's right."

"Isn't there some belief that the Basques may have descended from the Cro-Magnons?"

"There is such a theory. I have thought of it."

"Could this man of yours be a Cro-Magnon?"

"I'm beginning to think he is."

"But think of it—twenty thousand years!"

"Yes, I know," said Boyd.

4

Boyd heard the piping when he reached the bottom of the trail that led up to the cave. The notes were ragged, torn by the wind. The Pyrenees stood up against the high blue sky.

Tucking the bottle of wine more securely underneath his arm, Boyd began the climb. Below him lay the redness of the village rooftops and the sere brown of autumn that spread across the valley. The piping continued, lifting and falling as the wind tugged at it playfully.

Luis sat cross-legged in front of the tattered tent. When he saw Boyd, he put the pipe in his lap and sat waiting.

Boyd sat down beside him, handing him the bottle. Luis took it and began working on the cork.

"I heard you were back," he said. "How went the trip?"

"It went well," said Boyd.

"So now you know," said Luis.

Boyd nodded. "I think you wanted me to know. Why should you have wanted that?"

"The years grow long," said Luis. "The burden heavy. It is lonely, all alone."

"You are not alone."

"It's lonely when no one knows you. You now are the first who has really known me."

"But the knowing will be short. A few years more and again no one will know you."

"This lifts the burden for a time," said Luis. "Once you are gone, I will be able to take it up again. And there is something . . ."

"Yes, what is it, Luis?"

"You say when you are gone there'll be no one again. Does that mean . . ."

"If what you're getting at is whether I will spread the word, no, I won't. Not unless you wish it. I have thought on what would happen to you if the world were told."

"I have certain defenses. You can't live as long as I have if you fail in your defenses."

"What kind of defenses?"

"Defenses. That is all."

"I'm sorry if I pried. There's one other thing. If you wanted me to know, you took a long chance. Why, if something had gone wrong, if I had failed to find the grotto . . ."

"I had hoped, at first, that the grotto would not be necessary. I had thought you might have guessed, on your own."

"I knew there was something wrong. But this is so outrageous I couldn't have trusted myself even had I guessed. You know it's outrageous, Luis. And if I'd not found the grotto. . . Its finding was pure chance, you know."

"If you hadn't, I would have waited. Some other time, some other year, there would have been someone else. Some other way to betray myself."

"You could have told me."

"Cold, you mean?"

"That's what I mean. I would not have believed you, of course. Not at first."

"Don't you understand? I could not have told you. The concealment now is second nature. One of the defenses I talked about. I simply could not have brought myself to tell you, or anyone."

"Why me? Why wait all these years until I came along?"

"I did not wait, Boyd. There were others, at different times. None of them worked out. I had to find, you must understand, someone who had the strength to face it. Not one who would run screaming madly. I knew you would not run screaming."

"I've had time to think it through," Boyd said. "I've come to terms with it. I can accept the fact, but not too well, only barely. Luis, do you have some explanation? How come you are so different from the rest of us?"

"No idea at all. No inkling. At one time, I thought there must be others like me and I sought for them. I found none. I no longer seek."

The cork came free and he handed the bottle of wine to Boyd. "You go first," he said steadily.

Boyd lifted the bottle and drank. He handed it to Luis. He watched him as he drank. Wondering, as he watched, how he could be sitting here, talking calmly with a man who had lived, who had stayed young through twenty thousand years. His gorge rose once again against acceptance of the fact—but it had to be a fact. The shoulder blade, the small amount of organic matter still remaining in the pigment, had measured out to 22,000 years. There was no question that the prints in the paint had matched the prints upon the bottle. He had raised one question back in Washington, hoping there might be evidence of hoax. Would it have been possible, he had asked, that the ancient pigment, the paint used by the prehistoric artist, could have been reconstituted, the fingerprints impressed upon it, and then replaced in the grotto? Impossible, was the answer. Any reconstitution of the pigment, had it been possible, would have shown up in the analysis. There had been nothing of the sort—the pigment dated to 20,000 years ago. There was no question of that.

"All right, Cro-Magnon," said Boyd, "tell me how you did it. How does a man survive as long as you have? You do not age, of course, Your body will not accept disease. But I take it you are not immune to violence or to accident. You've lived in a violent world. How does a man sidestep accident and violence for two hundred centuries?"

"There were times early," Luis said, "when I came close to not surviving. For a long time, I did not realize the kind of thing I was. Sure, I lived longer, stayed younger than all the others—I would guess, however, that I didn't begin to notice this until I began to realize that all the people I had known in my early life were dead—dead for a long, long time. I knew then that I was different from the rest. About the same time others began to notice I was different. They became suspicious of me. Some of them resented me. Others thought I was some sort of evil spirit. Finally I had to flee the tribe. I became a skulking outcast. That was when I began to learn the principles of survival."

"And those principles?"

"You keep a low profile. You don't stand out. You attract no attention to yourself. You cultivate a cowardly attitude. You are never brave. You take no risks. You let others do the dirty work. You never volunteer. You skulk and run and hide. You grow a skin that's thick; you don't give a damn what others think of you. You shed all your noble attributes, your social consciousness. You shuck your loyalty to tribe or folk or country. You're not a patriot. You live for yourself alone. You're an observer, never a participant. You scuttle around the edges of things. And you become so self-centered that you come to believe that no blame should attach to you, that you are living in the only logical way a man can live. You went to Roncesvalles the other day, remember?"

"Yes. I mentioned I'd been there. You said you'd heard of it."

"Heard of it. Hell, I was there the day it happened—August 15, 778. An observer, not a participant. A cowardly little bastard who tagged along behind that noble band of Gascons who did in Charlemagne. Gascons, hell. That's the fancy name for them. They were Basques, pure and simple. The meanest crew of men who ever drew the breath of life. Some Basques may be noble, but not this band. Not the kind of warriors who'd stand up face to face with the Franks. They hid up in the pass and rolled rocks down on all those puissant knights. But it wasn't the knights who held their interest. It was the wagon train. They weren't out to fight a war or to avenge a wrong. They were out for loot. Although little good it did them."

"Why do you say that?"

"It was this way," said Luis. "They knew the rest of the Frankish army would return when the rearguard didn't come up and they had not the stomach for that. They stripped the dead knights of their golden spurs, their armor and fancy clothes, the money bags they carried and loaded all of it on the wagons and got out of there. A few miles further on, deep in the mountains, they holed up and hid. In a deep canyon where they thought they would be safe. But if they should be found, they had what amounted to a fort. A half mile or so below the place they camped, the canyon narrowed and twisted sharply. A lot of boulders had fallen down at that point, forming a barricade that could have been held by a handful of men against any assault that could be launched against it. By this time, I was a long way off. I smelled something wrong, I knew something most unpleasant was about to happen. That's another thing about this survival business. You develop special senses. You get so you can smell out trouble, well ahead of time. I heard what happened later."

He lifted the bottle and had another drink. He handed it to Boyd.

"Don't leave me hanging," said Boyd. "Tell me what did happen."

"In the night," said Luis, "a storm came up. One of those sudden, brutal summer thunderstorms. This time it was a cloudburst. My brave fellow Gascons died to the man. That's the price of bravery."

Boyd took a drink, lowered the bottle, held it to his chest, cuddling it.

"You know about this," he said. "No one else does. Perhaps no one had ever wondered what happened to those Gascons who gave Charlemagne the bloody nose. You must know of other things. Christ, man, you've lived history. You didn't stick to this area."

"No. At times I wandered. I had an itching foot. There were things to see. I had to keep moving along. I couldn't stay in one place any length of time or it would be noticed that I wasn't aging."

"You lived through the Black Death," said Boyd. "You watched the Roman legions. You heard first-hand of Attila. You skulked along on Crusades. You walked the streets of ancient Athens."

"Not Athens," said Luis. "Somehow Athens was never to my taste. I spent some time in Sparta. Sparta, I tell you—that was really something."

"You're an educated man," said Boyd. "Where did you go to school?"

"Paris, for a time, in the fourteenth century. Later on at Oxford. After that at other places. Under different names. Don't try tracing me through the schools that I attended."

"You could write a book," said Boyd. "It would set new sales records. You'd be a millionaire. One book and you'd be a millionaire."

"I can't afford to be a millionaire. I can't be noticed and millionaires are noticed. I'm not in want. I've never been in want. There's always treasure for a skulker to pick up. I have caches here and there. I get along all right."

Luis was right, Boyd told himself. He couldn't be a millionaire. He couldn't write a book. In no way could he be famous, stand out in any way. In all things, he must remain unremarkable, always anonymous.

The principles of survival, he had said. And this was part of it, although not all of it. He had mentioned the art of smelling trouble, the hunch ability. There would be, as well, the wisdom, the street savvy, the cynicism that a man would pick up along the way, the expertise, the ability to judge character, an insight into human reaction, some knowledge concerning the use of power, power of every sort, economic power, political power, religious power.

Was the man still human, he wondered, or had he, in 20,000 years, become something more than human? Had he advanced that one vital step that would place him beyond humankind, the kind of being that would come after man?

"One thing more," said Boyd. "Why the Disney paintings?"

"They were painted some time later than the others," Luis told him. "I painted some of the earlier stuff in the cave. The fishing bear is mine. I knew about the grotto. I found it and said nothing. No reason I should have kept it secret. Just one of those little items one hugs to himself to make himself important. I know something you don't know—silly stuff like that. Later I came back to paint the grotto. The cave art was so deadly serious. Such terribly silly magic. I told myself painting should be fun. So I came back, after the tribe had moved, and painted simply for the fun of it. How did it strike you, Boyd?"

"Damn good art," said Boyd.

"I was afraid you wouldn't find the grotto and I couldn't help you. I knew you had seen the cracks in the wall; I watched you one day looking at them. I counted on you remembering them. And I counted on you seeing the fingerprints and finding the pipe. All pure serendipity, of course. I had nothing in mind when I left the paint with the fingerprints and the pipe. The pipe, of course, was the tip-off, and I was confident you'd at least be curious. But I couldn't be sure. When we ate that night, here by the campfire, you didn't mention the grotto and I was afraid you'd blown it. But when you made off with the bottle, sneaking it away, I knew I had it made. And now the big question. Will you let the world in on the grotto paintings?"

"I don't know. I'll have to think about it. What are your thoughts on the matter?"

"I'd just as soon you didn't."

"Okay," said Boyd. "Not for the time being, at least. Is there anything else I can do for you? Anything you want?"

"You've done the best thing possible," said Luis. "You know who I am, what I am. I don't know why that's so important to me, but it is. A matter of identity, I suppose. When you die, which I hope will be a long time from now, then, once again, there'll be no one who knows. But the knowledge that one man did know, and what is more important, understood, will sustain me through the centuries. A minute—I have something for you."

He rose and went into the tent, came back with a sheet of paper, handing it to Boyd. It was a topographical survey of some sort.

"I've put a cross on it," said Luis. "To mark the spot."

"What spot?"

"Where you'll find the Charlemagne treasure of Roncesvalles. The wagons and the treasure would have been carried down the canyon in the flood. The turn in the canyon and the boulder barricade I spoke of would have blocked them. You'll find them there, probably under a deep layer of gravel and debris."

Boyd looked up questioningly from the map.

"It's worth going after," said Luis. "Also it provides another check against the validity of my story."

"I believe you," said Boyd. "I need no further evidence."

"Ah, well!" said Luis, "It wouldn't hurt. And now, it's time to go."

"Time to go! We have a lot to talk about."

"Later, perhaps," said Luis. "We'll bump into one another time to time. I'll make a point we do. But now it's time to go."

He started down the path and Boyd sat watching him.

After a few steps, Luis halted and half-turned back to Boyd.

"It seems to me," he said in explanation, "it's always time to go."

Boyd stood and watched him move down the trail toward the village. There was about the moving figure a deep sense of loneliness—the most lonely man in all the world. ■

# RESCUE OPERATION

Harry Harrison

*My first novels were not novels at all, but serials written for Astounding. One of them even started in Astounding and finished in Analog, since the magazine changed names while the parts of the serial were running. In those golden days, ASF was for me the magazine of first choice—both for reading and submitting. When I thought of science fiction ideas, they were almost always ASF ideas.*

*We were living in Denmark then, a clean, civilized, and happy country. In the summer the family used to pile into our decaying Volkswagen bus to journey south to the joys of Italy. One summer we kept on going a bit farther and ended up in Yugoslavia.*

*It was a mirror image of Denmark. For urbanized read countrified. For informed citizens read superstitious peasants. Continue the list as far as you like. This marked contrast of two European countries so close—and so different (they are physically about as far apart as Seattle and San Diego)—started my mind working. The story that follows is what the intellectual machinery produced. When it was finished my first thought was Analog. I am happy to say that the editor agreed.*

*I must add that all of the characters, thoughts, philosophies, and locations are real. Only the SF element has been added.*



"PULL! PULL STEADILY. . . !" Dragomir shouted, clutching at the tarry cords of the net. Beside him in the hot darkness Pribislav Polasek grunted as he heaved on the wet strands. The net was invisible in the black water, but the blue light trapped in it rose closer and closer to the surface.

"It's slipping. . . ." Pribislav groaned and clutched the rough gunwale of the little boat. For a single instant he could see the blue light on the helmet, a face plate and the suited body that faded into blackness—then it slipped free of the net. He had just a glimpse of a dark shape before it was gone. "Did you see it?" he asked. "Just before he fell he waved his hand."

"How can I know—the hand moved, it could have been the net, or he might still be alive?" Dragomir had his face bent almost to the glassy surface of the water, but there was nothing more to be seen. "He might be alive."

The two fishermen sat back in the boat and stared at each other in the harsh light of the hissing acetylene lamp in the bow. They were very different men, yet greatly alike in their stained, baggy trousers and faded cotton shirts. Their hands were deeply wrinkled and calloused from a lifetime of hard labor, their thoughts slowed by the rhythm of work and years.

"We cannot get him up with the net," Dragomir finally said, speaking first as always.

"Then we will need help," Pribislav added. "We have anchored the buoy here; we can find the spot again."

"Yes, we need help." Dragomir opened and closed his large hands, then leaned over to bring the rest of the net into the boat. "The diver, the one who stays with the widow Korenc, he will know what to do. His name is Kukovic and Petar said he is a doctor of science from the university in Ljubljana."

They bent to their oars and sent the heavy boat steadily over the glasslike water of the Adriatic. Before they had reached shore the sky was light and when they tied to the sea wall in Brbinj the sun was above the horizon.

Joze Kukovic looked at the rising ball of the sun, already hot on his skin, yawned and stretched. The widow shuffled out with his coffee, mumbled good morning and put it on the stone rail of the porch. He pushed the tray aside and sat down next to it, then emptied the coffee from the small, long-handled pot into his cup. The thick Turkish coffee would wake him up, in spite of the impossible hour. From the rail he had a view down the unpaved and dusty street to the port, already stirring to life. Two women, with the morning's water in brass pots balanced on their heads, stopped to talk. The peasants were bringing in their produce for the morning market, baskets of cabbages and potatoes and trays of tomatoes, strapped onto tiny donkeys. One of them brayed, a harsh noise that sawed through the stillness of the morning, bouncing echoes from the yellowed buildings. It was hot already. Brbinj was a town at the edge of nowhere, locked between empty ocean and barren hills, asleep for centuries and dying

by degrees. There were no attractions here—if you did not count the sea. But under the flat, blue calm of the water was another world that Joze loved.

Cool shadows, deep valleys, more alive than all the sun-blasted shores that surrounded it. Excitement, too: just the day before, too late in the afternoon to really explore it, he had found a Roman galley half-buried in the sand. He would get into it today, the first human in two thousand years, and heaven alone knew what he would find there. In the sand about it had been shards of broken amphorae; there might be whole ones inside the hull.

Sipping happily at his coffee he watched the small boat tying up in the harbor, and wondered why the two fishermen were in such a hurry. They were almost running, and no one ran here in the summer. Stopping below his porch the biggest one called up to him.

"Doctor, may we come up? There is something urgent."

"Yes, of course." He was surprised and wondered if they took him for a physician.

Dragomir shuffled forward and did not know where to begin. He pointed out over the ocean.

"It fell, out there last night, we saw it, a *sputnik* without a doubt."

"A traveler?" Joze Kukovic wrinkled his forehead, not quite sure that he heard right. When the locals were excited it was hard to follow their dialect. For such a small country Yugoslavia was cursed with a multitude of tongues.

"No, it was not a *putnik*, but a *sputnik*, one of the Russian spaceships."

"Or an American one," Pribislav spoke for the first time, but he was ignored.

Joze smiled and sipped his coffee. "Are you sure it wasn't a meteorite you saw? There is always a heavy meteor shower this time of the year."

"A *sputnik*," Dragomir insisted stolidly. "The ship fell far out in the *Jadransko More* and vanished, we saw that. But the space pilot came down almost on top of us, into the water. . . ."

"The WHAT?" Joze gasped, jumping to his feet and knocking the coffee tray to the floor. The brass tray clanged and rattled in circles unnoticed. "There was a man in this thing—and he got clear?"

Both fishermen nodded at the same time and Dragomir continued. "We saw this light fall from the *sputnik* when it went overhead and drop into the water. We couldn't see what it was, just a light, and we rowed there as fast as we could. It was still sinking and we dropped a net and managed to catch him. . . ."

"You have the pilot?"

"No, but once we pulled him close enough to the surface to see he was in a heavy suit, with a window like a diving suit, and there was something on the back that might have been like your tanks there."

"He waved his hand," Pribislav insisted.

"He might have waved a hand, we could not be sure. We came back for help."

The silence lengthened and Joze realized that he was the help that they needed, and

that they had turned the responsibility over to him. What should he do first? The astronaut might have his own oxygen tanks, Joze had no real idea what provisions were made for water landings, but if there were oxygen the man might still be alive.

Joze paced the floor while he thought, a short, square figure in khaki shorts and sandals. He was not handsome, his nose was too big and his teeth were too obvious for that, but he generated a certainty of power. He stopped and pointed to Pribislav.

"We're going to have to get him out. You can find the spot again?"

"A buoy."

"Good. And we may need a doctor. You have none here, but is there one in Osor?"

"Dr. Bratos, but he is very old . . ."

"As long as he is still alive, we'll have to get him. Can anyone in this town drive an automobile?"

The fishermen looked towards the roof and concentrated, while Joze controlled his impatience.

"Yes, I think so," Dragomir finally said. "Petar was a *partizan* . . ."

"That's right," the other fisherman finished the thought. "He has told many times how they stole German trucks and how he drove . . ."

"Well, then one of you get this Petar and give him these keys to my car, it's a German car so he should be able to manage. Tell him to bring the doctor back at once."

Dragomir took the keys, but handed them to Pribislav, who ran out.

"Now let's see if we can get the man up," Joze said, grabbing his scuba gear and leading the way towards the boat.

They rowed side by side, though Dragomir's powerful strokes did most of the work.

"How deep is the water out here?" Joze asked. He was already dripping with sweat as the sun burned on him.

"The Kvarneric is deeper up by Rab, but we were fishing off Trstenik and the bottom is only about four fathoms there. We're coming to the buoy."

"Seven meters, it shouldn't be too hard to find him." Joze kneeled in the bottom of the boat and slipped into the straps of the scuba. He buckled it tight, checked the valves, then turned to the fisherman before he bit into the mouthpiece. "Keep the boat near this buoy and I'll use it for a guide while I search. If I need a line or any help, I'll surface over the astronaut, then you can bring the boat to me."

He turned on the oxygen and slipped over the side, the cool water rising up his body as he sank below the surface. With a powerful kick he started towards the bottom, following the dropping line of the buoy rope. Almost at once he saw the man, spread-eagled on white sand below.

Joze swam down, making himself stroke smoothly in spite of his growing excitement. Details were clearer as he dropped lower. There were no identifying marks on

the pressure suit; it might be either American or Russian. It was a hard suit, metal or reinforced plastic, and painted green, with a single, flat face plate in the helmet.

Because distance and size are so deceptive under water, Joze was on the sand next to the figure before he realized it was less than four feet long. He gasped and almost lost his mouthpiece.

Then he looked into the face plate and saw that the creature inside was not human.

Joze coughed a bit and blew out a stream of bubbles; he had been holding his breath without realizing it. He just floated there, paddling slowly with his hands to stay in a position, looking at the face within the helmet.

It was as still as waxen cast, green wax with a roughened surface, slit nostrils, slit mouth and large eyeballs unseen but prominent as they pushed up against the closed lids. The arrangement of features was roughly human, but no human being ever had skin this color or had a pulpy crest like this one, partially visible through the face plate, growing up from above the closed eyes. Joze stared down at the suit made of some unknown material, and at the compact atmosphere regeneration apparatus on the alien's back. What kind of atmosphere? He looked back at the creature's face and saw that the eyes were open and the thing was watching him.

Fear was his first reaction; he shot back in the water like a startled fish then, angry at himself, came forward again. The alien slowly raised one arm, then dropped it limply. Joze looked through the face plate and saw that the eyes were closed again. The alien was alive, but unable to move, perhaps it was injured and in pain. The wreck of the creature's ship showed that something had been wrong with the landing. Reaching under as gently as he could he cradled the tiny body in his arms, trying to ignore a feeling of revulsion when the cold fabric of the thing's suit touched his bare arms. It was only metal or plastic; he had to be a scientist about this. When he lifted it up the eyes still did not open and he bore the limp and almost weightless form to the surface.

"You great stupid clumsy clod of peasant, help me," he shouted, spitting out his mouthpiece and treading water on the surface, but Dragomir only shook his head in terror and retreated to the point of the bow when he saw what the physicist had borne up from below.

"It is a creature from another world and cannot harm you!" Joze insisted, but the fisherman would not approach.

Joze cursed aloud and only managed with great difficulty to get the alien into the boat, then climbed in after him. Though he was twice Joze's size, threats of violence drove Dragomir to the oars. But he used the farthest set of tholepins, even though it made rowing much more difficult. Joze dropped his scuba gear into the bottom of the boat and looked more closely at the drying fabric of the alien spacesuit. His fear of the unknown was forgotten in his growing enthusiasm. He was a nuclear physicist, but he remembered enough of his chemistry and mechanics to know that this material was completely impossible—by Earth's standards.

Light green, it was as hard as steel over the creature's limbs and torso, yet was soft and bent easily at the joints, as he proved by lifting and dropping the limp arm. His eyes went down the alien's tiny figure: there was a thick harness about the middle, roughly where a human waist would be, and hanging from this was a bulky container, like an oversize sporran. The suiting continued without an apparent seam—but the right leg! It was squeezed in, and crushed as though it had been grabbed by a giant pliers. Perhaps this explained the creature's lack of motion. Could it be hurt? In pain?

Its eyes were open again and Jozé realized in sudden horror that the helmet was filled with water. It must have leaked in; the thing was drowning. He grabbed at the helmet, seeing if it would screw off, tugging at it in panic while the great eyes rolled up towards him.

Then he forced himself to think, and shakingly let go. The alien was still quiet, eyes open, no bubbles apparently coming from lips or nose. Did it breathe? Had the water leaked in—or was it possible it had always been there? Was it water? Who knew what alien atmosphere it might breathe: methane, chlorine, sulfur dioxide—why not water? The liquid was inside, surely enough; the suit wasn't leaking and the creature seemed unchanged.

Jozé looked up and saw that Dragomir's panicked strokes had brought them into the harbor already, and that a crowd was waiting on the shore.

The boat almost overturned as Dragomir leaped up onto the harbor wall, kicking backward in his panic. They drifted away and Jozé picked the mooring line up from the floor boards and coiled it in his hands. "Here," he shouted, "catch this. Tie it onto the ring there."

No one heard him, or if they heard, did not want to admit it. They stared down at the green-cased figure lying in the sternsheets and a rustle of whispering blew across them like wind among pine boughs. The women clutched their hands to their breasts, crossing themselves.

"Catch this!" Jozé said through clenched teeth, forcing himself to keep his temper.

He hurled the rope onto the stones and they shied away from it. A youth grabbed it and slowly threaded it through the rusty ring, hands shaking and head tilted to one side, his mouth dropped in a permanent gape. He was feeble-minded, too simple to understand what was going on: he simply obeyed the shouted order.

"Help me get this thing ashore," Jozé called out, and even before the words were out of his mouth he realized the futility of the request.

The peasants shuffled backwards, a blank-faced mob sharing the same fear of the unknown, the women like giant, staring dolls in their knee-length flaring skirts, black stockings and high felt shoes. He would have to do it himself. Balancing in the rocking boat, he cradled the alien in his arms and lifted it carefully up onto the rough stone of the harbor wall. The circle of watchers pushed back even farther, some of the women choking off screams and running back to their houses, while the men muttered louder: Jozé ignored them.

These people were going to be no help to him—and they might cause trouble. His own room would be safest; he doubted if they would bother him there. He had just picked up the alien when a newcomer pushed through the watchers.

"There—what is that? A *vrag!*" The old priest pointed in horror at the alien in Joze's arms and backed away, fumbling for his crucifix.

"Enough of your superstition!" Joze snapped. "This is no devil but a sentient creature, a traveler. Now get out of my way."

He pushed forward and they fled before him. Joze moved as quickly as he could without appearing to hurry, leaving the crowd behind. There was a slapping of quick footsteps and he looked over his shoulder; it was the priest, Father Perc. His stained cassock flapped and his breath whistled in his throat with the unaccustomed exertion.

"Tell me, what are you doing . . . Dr. Kukovic? What is that . . . thing? Tell me . . ."

"I told you. A traveler. Two of the local fishermen saw something come from the sky and crash. This . . . alien came from it." Joze spoke as calmly as possible. There might be trouble with the people, but not if the priest were on his side. "It is a creature from another world, a water-breathing animal, and it's hurt. We must help it."

Father Perc scrambled along sideways as he looked with obvious distaste at the motionless alien. "It is wrong," he mumbled, "this is something unclean, *zao duh* . . ."

"Neither demon nor devil, can't you get that through your mind? The church recognizes the possibility of creatures from other planets—the Jesuits even argue about it—so why can't you? Even the Pope believes there is life on other worlds."

"Does he? Does he?" the old man asked, blinking with red-rimmed eyes.

Joze brushed by him and up the steps to the widow Korenc's house. She was nowhere in sight as he went into his room and gently lowered the still-unconscious form of the alien onto his bed. The priest stopped in the doorway, quivering fingers on his rosary; uncertain. Joze stood over the bed, opening and closing his hands, just as unsure. What could he do? The creature was wounded, perhaps dying; something must be done. But what?

The distant droning whine of a car's engine pushed into the hot room and he almost sighed with relief. It was his car, he recognized the sound, and it would be bringing the doctor. The car stopped outside and the doors slammed, but no one appeared.

Joze waited tensely, realizing that the townspeople must be talking to the doctor, telling him what had happened. A slow minute passed and Joze started from the room, but stopped before he passed the priest, still standing just inside the door. What was keeping them: his window faced on an alleyway and he could not see the street in front of the building. Then the outside door opened and he could hear the widow's whispered voice, "In there, straight through."

There were two men, both dusty from the road. One was obviously the doctor, a short and dumpy man clutching a worn black bag, his bald head beaded with sweat.

Next to him was a young man, tanned and windburned, dressed like the other fishermen: this must be Petar the ex-partisan.

It was Petar who went to the bed first, the doctor just stood clutching his bag and blinking about at the room.

"What is this thing?" Petar asked, then bent over, hands on his knees, to stare in through the face plate. "Whatever it is, it sure is ugly."

"I don't know. It's from another planet, that's the only thing I know. Now move aside so that the doctor can look." Joze waved and the physician moved reluctantly forward. "You must be Dr. Bratos. I'm Kukovic, professor of nuclear physics at the university in Ljubljana." Perhaps waving around a little prestige might get this man's reluctant co-operation.

"Yes, how do you do. Very pleased to meet you, professor, an honor I assure you. But what is it that you wish me to do; I do not understand?" He shook ever so lightly as he spoke and Joze realized that the man was very old, well into his eighties or more. He would have to be patient.

"This alien . . . whatever it is . . . is injured and unconscious. We must do what we can to save its life."

"But what can I do? The thing is sealed in a metal garment—look, it is filled with water—I am a doctor, a medical man, but not for animals, creatures like that."

"Neither am I, doctor—no one on earth is. But we must do our best. We must get the suit off the alien and then discover what we can do to help."

"It is impossible! The fluid inside of it, it will run out."

"Obviously, so we will have to take precautions. We will have to determine what the liquid is, then get more of it and fill the bathtub in the next room. I have been looking at the suit and the helmet seems to be a separate piece, clamped into position. If we loosen the clamps, we should be able to get our sample."

For precious seconds Dr. Bratos stood there, nibbling at his lip, before he spoke. "Yes, we could do that, I suppose we could, but what could we catch the sample in? This is most difficult and irregular."

"It doesn't make any difference what we catch the sample in," Joze snapped, frustration pushing at his carefully held control. He turned to Petar who was standing silently by, smoking a cigarette in his cupped hand. "Will you help? Get a soup plate, anything, from the kitchen."

Petar simply nodded and left. There were muffled complaints from the widow, but he was back quickly with her best pot.

"That's good," Joze said, lifting the alien's head, "now, slide it under here." With the pot in position he twisted one of the clamps; it snapped open but nothing else happened. A hairline opening was visible at the junction, but it stayed dry. But when Joze opened the second clamp there was a sudden gush of clear liquid under pressure, and before he fumbled the clamp shut again the pot was half full. He lifted



the alien again and, without being told, Petar pulled the pot free and put it on the table by the window. "It's hot," he said.

Joze touched the outside of the container. "Warm not hot, about 120 degrees I would guess. A hot ocean on a hot planet."

"But . . . is it water?" Dr. Bratos asked haltingly.

"I suppose it is—but aren't you the one to find out? Is it fresh water or sea water?"

"I'm no chemist . . . how can I tell . . . it is very complicated."

Petar laughed and took Joze's water glass from the nightstand. "That's not so hard to find out," he said, and dipped it into the pot. He raised the half-filled glass, sniffed at it, then took a sip and puckered his lips. "Tastes like ordinary sea water to me, but there's another taste, sort of bitter."

Joze took the glass from him. "This could be dangerous," the doctor protested, but they ignored him. Yes, salt water, hot salt water with a sharpness to it. "It tastes like more than a trace of iodine. Can you test for the presence of iodine, doctor?"

"Here . . . no, it is quite complicated. In the laboratory with the correct equipment—" his voice trailed off as he opened his bag on the table and groped through it. He brought his hand out empty. "In the laboratory."

"We have no laboratory or any other assistance, doctor. We will have to be satisfied with what we have here, ordinary sea water will have to do."

"I'll get a bucket and fill the tub," Petar said.

"Good. But don't fill the bathtub yet. Bring the water into the kitchen and we'll heat it, then pour it in."

"Right." Petar brushed past the silent and staring priest and was gone. Joze looked at Father Perc and thought of the people of the village.

"Stay here, doctor," he said. "This alien is your patient and I don't think anyone other than you should come near. Just sit by him."

"Yes, of course, that is correct," Dr. Bratos said relievedly, pulling the chair over and sitting down.

The breakfast fire was still burning in the big stove and flamed up when Joze slid in more sticks. On the wall hung the big copper washtub and he dropped it onto the stove with a clang. Behind him the widow's bedroom door opened, but slammed shut again when he turned. Petar came in with a bucket of water and poured it into the tub.

"What are the people doing?" Joze asked.

"Just milling about and bothering each other. They won't be any trouble. If you're worried about them, I can drive back to Osor and bring the police, or telephone someone."

"No, I should have thought of that earlier. Right now I need you here. You're the only one who isn't either senile or ignorant."

Petar smiled. "I'll get some more water."

The bathtub was small and the washtub big. When the heated water was dumped



in it filled it more than half way, enough to cover the small alien. There was a drain from the bathtub but no faucets: it was usually filled with a hose from the sink. Joze picked up the alien, cradling it like a child in his arms, and carried it into the bath. The eyes were open again, following his every movement, but making no protest. He lowered the creature gently into the water, then straightened a moment and took a deep breath. "Helmet first, then we'll try to figure out how the suit opens." He bent and slowly twisted the clamps.

With all four clamps open the helmet moved freely. He opened it a wide crack, ready to close it quickly if there were any signs of trouble. The ocean water would be flowing in now, mixing with the alien water, yet the creature made no complaint. After a minute Joze slowly pulled the helmet off, cradling the alien's head with one hand so that it would not bump to the bottom of the tub.

Once the helmet was clear the pulpy crest above the eyes sprang up like a coxcomb, reaching up over the top of the green head. A wire ran from the helmet to a shiny bit of metal on one side of the creature's skull. There was an indentation there and Joze slowly pulled a metal plug out, perhaps an earphone of some kind. The alien was opening and closing its mouth, giving a glimpse of bony yellow ridges inside, and a very low humming could be heard.

Petar pressed his ear against the outside of the metal tube. "The thing is talking or something; I can hear it."

"Let me have your stethoscope, doctor," Joze said, but when the doctor did not move he dug it from the bag himself. Yes—when he pressed it to the metal he could hear a rising and falling whine, speech of a kind.

"We can't possibly understand him—not yet," he said, handing the stethoscope back to the doctor, who took it automatically. "We had better try to get the suit off."

There were no seams or fastenings visible, nor could Joze find anything when he ran his fingers over the smooth surface. The alien must have understood what they were doing because it jerkingly raised one hand and fumbled at the metal sealing ring about the collar. With a liquid motion the suit split open down the front, the opening bifurcated and ran down each leg. There was a sudden welling of blue liquid from the injured leg.

Joze had a quick glimpse of green flesh, strange organs, then he spun about. "Quick, doctor—your bag. The creature is hurt, that fluid might be blood, we have to help it."

"What can I do," Dr. Bratos said, unmoving. "Drugs, antiseptics—I might kill it—we know nothing of its body chemistry."

"Then don't use any of those. This is a traumatic injury, you can bind it up, stop the bleeding, can't you?"

"Of course, of course," the old man said and at last his hands had familiar things to do, extracting bandages and sterile gauze from his bag, tape and scissors.

Joze reached into the warm and now murky water and forced himself to reach under

the leg and grasp the hot, green flesh. It was strange—but not terrible. He lifted the limb free of the water and they saw a crushed gap oozing a thick blue fluid. Petar turned away, but the doctor put on a pad of gauze and tightened the bandages about it. The alien was fumbling at the discarded suit beside it in the tub, twisting its leg in Joze's grip. He looked down and saw it take something from the sporran container. Its mouth was moving again, he could hear the dim buzz of its voice.

"What is it? What do you want?" Joze asked.

It was holding the object across its chest now with both hands: it appeared to be a book of some kind. It might be a book, it might be anything.

Yet it was covered in a shiny substance with dark markings on it, and at the edge seemed to be made of many sheets bound together. It could be a book. The leg was twisting now in Joze's grasp and the alien's mouth was open wider, as if it were shouting.

"The bandage will get wet if we put it back into the water," the doctor said.

"Can't you wrap adhesive tape over it, seal it in?"

"In my bag—I'll need some more."

While they talked the alien began to rock back and forth, splashing water from the tub, pulling its leg from Joze's grasp. It still held the book in one thin, multifingered hand, but with the other one it began to tear at the bandages on its leg.

"It's hurting itself, stop it. This is terrible," the doctor said, recoiling from the tub.

Joze snatched a piece of wrapping paper from the floor. "You fool! You incredible fool!" he shouted. "These compresses you used—they're impregnated with sulfanilamide."

"I always use them, they're the best, American, they prevent wound infection."

Joze pushed him aside and plunged his arms into the tub to tear the bandages free, but the alien reared up out of his grasp sitting up above the water, its mouth gaping wide. Its eyes were open and staring and Joze recoiled as a stream of water shot from its mouth. There was a gargling sound as the water died to a trickle, and then, as the first air touched the vocal cords, a rising howling scream of pain. It echoed from the plaster ceiling an inhuman agony as the creature threw its arms wide, then fell face forward into the water. It did not move again and, without examining it, Joze knew it was dead.

One arm was twisted back, out of the tub, still grasping the book. Slowly the fingers loosened, and while Joze looked on numbly, unable to move, the book thudded to the floor.

"Help me," Petar said, and Joze turned to see that the doctor had fallen and Petar was kneeling over him. "He fainted, or a heart attack. What can we do?"

His anger was forgotten as Joze kneeled. The doctor seemed to be breathing regularly

and his face wasn't flushed, so perhaps it was only a fainting spell. The eyelids fluttered. The priest brushed by and looked down over Joze's shoulder.

Dr. Bratos opened his eyes, looking back and forth at the faces bent over him. "I'm sorry—" he said thickly, then the eyes closed again as if to escape the sight of them.

Joze stood, and found that he was trembling. The priest was gone. Was it all over? Perhaps they might never have saved the alien, but they should have done better than this. Then he saw the wet spot on the floor and realized the book was gone.

"Father Perc!" he shouted, crying it out like an insult. The man had taken the book, the priceless book!

Joze ran out into the hall and saw the priest coming from the kitchen. His hands were empty. With sudden fear Joze knew what the old man had done and brushed past him into the kitchen and ran to the stove, hurling open the door.

There, among the burning wood, lay the book. It was steaming, almost smoking as it dried, lying open. It was obviously a book, there were marks on the pages of some kind. He turned to grab up the shovel and behind him the fire exploded, sending a white flame across the room. It had almost caught him in the face, but he did not think of that. Pieces of burning wood lay on the floor, and inside the stove there was only the remains of the original fire. Whatever substance the book had been made of was highly inflammable once it had dried out.

"It was evil," the priest said from the doorway, "A *zao duh*, an abomination with a book of evil. We have been warned, such things have happened before on earth, and always the faithful must fight back—"

Petar pushed in roughly past him and helped Joze to a chair, brushing the hot embers from his bare skin. Joze had not felt their burn; all he was aware of was an immense weariness.

"Why here?" he asked. "Of all places in the world why here? A few more degrees to the west and the creature would have come down near Trieste with surgeons, hospitals, men, facilities. Or, if it had just stayed on its course a little longer, it could have seen the lights, and would have landed at Rijika. Something could have been done. But why here?" he surged to his feet, shaking his fist at nothing—and at everything.

"Here, in this superstition-ridden, simple-minded backwater of the world! What kind of world do we live in where there is a five-million-volt electron accelerator not a hundred miles from primitive stupidity. That this creature should come so far, come so close . . . why, why?"

Why?

He slumped back into the chair again feeling older than he had ever felt before and tired beyond measure. What could they have learned from that book?

He sighed, and the sigh came from so deep within him that his whole body trembled as though shaken by an awful fever. ■

# REVOLUTION

Mack Reynolds

*For some sixty-five years critics of the U.S.S.R. have been desiring, predicting, not to mention praying for, its collapse. For some twenty of these years the author of this story has vaguely wondered what would replace the collapsed Soviet system. A return to Czarism? Oh, come now! Capitalism as we know it today in the advanced Western countries? It would seem difficult after more than sixty-five years of State ownership and control of the means of production, distribution, communications, education, science. Then what? The question became increasingly interesting following visits not only to Moscow and Leningrad but also to various other capital cities of the Soviet complex. A controversial subject? Indeed it is. You can't get much more controversial than this in the world today. However, this is science fiction, and here we go.*

PAUL KOSLOV NODDED briefly once or twice as he made his way through the forest of desks. Behind him he caught snatches of tittering voices in whisper.

"... That's him... The Chief's hatchetman... Know what they call him in Central America, a *pistola*, that means... About Iraq... And that time in Egypt... Did you notice his eyes... How would you like to date *him*... That's him. I was at a cocktail party once when he was there. Shivery... cold-blooded—"

Paul Koslov grinned inwardly. He hadn't asked for the reputation but it isn't everyone who is a legend before thirty-five. What was it *Newsweek* had called him? "The T. E. Lawrence of the Cold War." The trouble was, it wasn't something you could turn off. It had its shortcomings when you found time for some personal life.

He reached the Chief's office, rapped with a knuckle, and pushed his way through.

The Chief and a male secretary, who was taking dictation, looked up. The secretary frowned, evidently taken aback by the cavalier entrance, but the Chief said, "Hello, Paul, come on in. Didn't expect you quite so soon." And to the secretary, "Dickens, that's all."

When Dickens was gone the Chief scowled at his trouble-shooter. "Paul, you're bad for discipline around here. Can't you even knock before you enter? How is Nicaragua?"

Paul Koslov slumped into a leather easy-chair and scowled. "I did knock. Most of it's in my report. Nicaragua is... tranquil. It'll stay tranquil for a while, too. There isn't so much as a parlor pink—"

"And Lopez—?"

Paul said slowly, "Last time I saw Raul was in a swamp near Lake Managua. The very last time."

The Chief said hurriedly, "Don't give me the details. I leave details up to you."

"I know," Paul said flatly.

His superior drew a pound can of Sir Walter Raleigh across the desk, selected a briar from a pipe rack and while he was packing in tobacco said, "Paul, do you know what day it is—and what year?"

"It's Tuesday. And 1965."

The bureau chief looked at his desk calendar. "Um-m-m. Today the Seven-Year Plan is completed."

Paul snorted.

The Chief said mildly, "Successfully. For all practical purposes, the U.S.S.R. has surpassed us in gross national product."

"That's not the way I understand it."

"Then you make the mistake of believing our propaganda. That's always a mistake, believing your own propaganda. Worse than believing the other man's."

"Our steel capacity is a third again as much as theirs."

"Yes, and currently, what with our readjustment—remember when they used to call them *recessions*, or even earlier, *depressions*—our steel industry is operating at

less than sixty per cent of capacity. The Soviets always operate at one hundred per cent of capacity. They don't have to worry about whether or not they can sell it. If they produce more steel than they immediately need, they use it to build another steel mill."

The Chief shook his head. "As long ago as 1958 they began passing us, product by product. Grain, butter, and timber production, jet aircraft, space flight, and coal—"

Paul leaned forward impatiently. "We put out more than three times as many cars, refrigerators, kitchen stoves, washing machines."

His superior said, "That's the point. While we were putting the product of our steel mills into automobiles and automatic kitchen equipment, they did without these things and put their steel into more steel mills, more railroads, more factories. We leaned back and took it easy, sneered at their progress, talked a lot about our freedom and liberty to our allies and the neutrals and enjoyed our refrigerators and washing machines until they finally passed us."

"You sound like a Tass broadcast from Moscow."

"Um-m-m, I've been trying to," the Chief said. "However, that's still roughly the situation. The fact that you and I personally, and a couple of hundred million Americans, prefer our cars and such to more steel mills, and prefer our personal freedoms and liberties is beside the point. We should have done less laughing seven years ago and more thinking about today. As things stand, give them a few more years at this pace and every neutral nation in the world is going to fall into their laps."

"That's putting it strong, isn't it?"

"Strong?" the Chief growled disgustedly. "That's putting it mildly. Even some of our allies are beginning to waver. Eight years ago, India and China both set out to industrialize themselves. Today, China is the third industrial power of the world. Where's India, about twentieth? Ten years from now China will probably be first. I don't even allow myself to think where she'll be twenty-five years from now."

"The Indians were a bunch of idealistic screwballs."

"That's one of the favorite alibis, isn't it? Actually we, the West, let them down. They couldn't get underway. The Soviets backed China with everything they could toss in."

Paul crossed his legs and leaned back. "It seems to me I've run into this discussion a few hundred times at cocktail parties."

The Chief pulled out a drawer and brought forth a king-size box of kitchen matches. He struck one with a thumbnail and peered through tobacco smoke at Paul Koslov as he lit up.

"The point is that the system the Russkies used when they started their first five-year plan back in 1928, and the system used in China, works. If we, with our traditions of freedom and liberty, like it or not, it works. Every citizen of the country is thrown into the grinding mill to increase production. Everybody," the Chief grinned sourly,

"that is, except the party elite, who are running the whole thing. Everybody sacrifices for the sake of the progress of the whole country."

"I know," Paul said. "Give me enough time and I'll find out what this lecture is all about."

The Chief grunted at him. "The Commies are still in power. If they remain in power and continue to develop the way they're going, we'll be through, completely through, in another few years. We'll be so far behind we'll be the world's laughing-stock—and everybody else will be on the Soviet bandwagon."

He seemed to switch subjects. "Ever hear of Somerset Maugham?"

"Sure. I've read several of his novels."

"I was thinking of Maugham the British Agent, rather than Maugham the novelist, but it's the same man."

"British agent?"

"Um-m-m. He was sent to Petrograd in 1917 to prevent the Bolshevik revolution. The Germans had sent Lenin and Zinoviev up from Switzerland, where they'd been in exile, by a sealed train in hopes of starting a revolution in Czarist Russia. The point I'm leading to is that in one of his books, *The Summing Up*, I believe, Maugham mentions in passing that had he got to Petrograd possibly six weeks earlier he thinks he could have done his job successfully."

Paul looked at him blankly. "What could he have done?"

The Chief shrugged. "It was all-out war. The British wanted to keep Russia in the allied ranks so as to divert as many German troops as possible from the Western front. The Germans wanted to eliminate the Russians. Maugham had carte blanche. Anything would have gone. Elements of the British fleet to fight the Bolsheviks, unlimited amounts of money for anything he saw fit from bribery to hiring assassins. What would have happened, for instance, if he could have had Lenin and Trotsky killed?"

Paul said suddenly, "What has all this got to do with me?"

"We're giving you the job this time."

"Maugham's job?" Paul didn't get it.

"No, the other one. I don't know who the German was who engineered sending Lenin up to Petrograd, but that's the equivalent of your job." He seemed to go off on another bent. "Did you read Djilas's 'The New Class' about a decade ago?"

"Most of it, as I recall. One of Tito's top men who turned against the Commies and did quite a job of exposing the so-called classless society."

"That's right. I've always been surprised that so few people bothered to wonder how Djilas was able to smuggle his book out of one of Tito's strongest prisons and get it to publishers in the West."

"Never thought of it," Paul agreed. "How could he?"

"Because," the Chief said, knocking the ash from his pipe and replacing it in the rack, "there was and is a very strong underground in all the Communist countries. Not only Yugoslavia, but the Soviet Union as well."

Paul stirred impatiently. "Once again, what's all this got to do with me?"

"They're the ones you're going to work with. The anti-Soviet underground. You've got unlimited funds for whatever you find you need them for. Your job is to help the underground start a new Russian Revolution."

Paul Koslov, his face still bandaged following plastic surgery, spent a couple of hours in the Rube Goldberg department inspecting the latest gadgets of his trade.

Derek Stevens said, "The Chief sent down a memo to introduce you to this new item. We call it a Tracy."

Paul frowned at the wristwatch, fingered it a moment, held it to his ear. It ticked and the second hand moved. "Tracy?" he said.

Stevens said, "After Dick Tracy. Remember, a few years ago? His wrist two-way radio."

"But this is really a watch," Paul said.

"Sure. Keeps fairly good time, too. However, that's camouflage. It's also a two-way radio. Tight beam from wherever you are to the Chief."

Paul pursed his lips. "The transistor boys are really doing it up brown." He handed the watch back to Derek Stevens. "Show me how it works, Derek."

They spent fifteen minutes on the communications device, then Derek Stevens said, "Here's another item the Chief thought you might want to see."

It was a compact, short-muzzled hand gun. Paul handled it with the ease of long practice. "The grip's clumsy. What's its advantage? I don't particularly like an automatic."

Derek Stevens motioned with his head. "Come into the firing range, Koslov, and we'll give you a demonstration."

Paul shot him a glance from the side of his eyes, then nodded. "Lead on."

In the range, Stevens had a man-size silhouette put up. He stood to one side and said, "O.K., let her go."

Paul stood easily, left hand in pants pocket, brought the gun up and tightened on the trigger. He frowned and pressed again.

He scowled at Derek Stevens. "It's not loaded."

Stevens grunted amusement. "Look at the target. First time you got it right over the heart."

"It'll be . . ." Paul began. He looked down at the weapon in surprise. "Noiseless and recoilless. What caliber is it, Derek, and what's the muzzle velocity?"

"We call it the .38 Noiseless," Stevens said. "It has the punch of that .44 Magnum you're presently carrying."

With a fluid motion Paul Koslov produced the .44 Magnum from the holster under his left shoulder and tossed it to one side. "That's the last time I tote that cannon," he said. He balanced the new gun in his hand in admiration. "Have the front sight



taken off for me, Derek, and the fore part of the trigger guard. I need a quick-draw gun." He added absently, "How did you know I carried a .44?"

Stevens said, "You're rather famous, Koslov. The Colonel Lawrence of the Cold War. The journalists are kept from getting very much about you, but what they do learn they spread around."

Paul Koslov said flatly, "Why don't you like me, Stevens? In this game I don't appreciate people on our team who don't like me. It's dangerous."

Derek Stevens flushed. "I didn't say I didn't like you."

"You didn't have to."

"It's nothing personal," Stevens said.

Paul Koslov looked at him.

Stevens said, "I don't approve of Americans committing political assassinations."

Paul Koslov grinned wolfishly and without humor. "You'll have a hard time proving that even our cloak and dagger department has ever authorized assassination, Stevens. By the way, I'm not an American."

Derek Stevens was not the type of man whose jaw dropped, but he blinked. "Then what are you?"

"A Russian," Paul snapped. "And look, Stevens, we're busy now, but when you've got some time to do a little thinking, consider the ethics of warfare."

Stevens was flushed again at the tone. "Ethics of warfare?"

"There aren't any," Paul Koslov snapped. "There hasn't been chivalry in war for a long time, and there probably never will be again. Neither side can afford it. And I'm talking about cold war as well as hot." He scowled at the other. "Or did you labor under the illusion that only the Commies had tough operators on their side?"

Paul Koslov crossed the Atlantic in a supersonic TU-180 operated by Europa Airways. That in itself galled him. It was bad enough that the Commies had stolen a march on the West with the first jet liner to go into mass production, the TU-104 back in 1957. By the time the United States brought out its first really practical trans-Atlantic jets in 1959 the Russians had come up with the TU-114, which its designer, old Andrei Tupolev, named the largest, most efficient and economical aircraft flying.

In civil aircraft they had got ahead and stayed ahead. Subsidized beyond anything the West could or at least would manage, the airlines of the world couldn't afford to operate the slower, smaller, and more expensive Western models. One by one, first the neutrals such as India, and then even members of the Western bloc began equipping their airlines with Russian craft.

Paul grunted his disgust at the memory of the strong measures that had to be taken by the government to prevent even some of the American lines from buying Soviet craft at the unbelievably low prices they offered them.

\* \* \*

In London he presented a card on which he had added a numbered code in pencil. Handed it over a desk to the British intelligence major.

"I believe I'm expected," Paul said.

The major looked at him, then down at the card. "Just a moment, Mr. Smith. I'll see if his lordship is available. Won't you take a chair?" He left the room.

Paul Koslov strolled over to the window and looked out on the moving lines of pedestrians below. He had first been in London some thirty years ago. So far as he could remember, there were no noticeable changes with the exception of automobile design. He wondered vaguely how long it took to make a noticeable change in the London street scene.

The major re-entered the room with a new expression of respect on his face. "His lordship will see you immediately, Mr. Smith."

"Thanks," Paul said. He entered the inner office.

Lord Carrol was attired in civilian clothes which somehow failed to disguise a military quality in his appearance. He indicated a chair next to his desk. "We've been instructed to give you every assistance, Mr. . . . Smith. Frankly, I can't imagine of just what this could consist."

Paul said, as he adjusted himself in the chair, "I'm going into the Soviet Union on an important assignment. I'll need as large a team at my disposal as we can manage. You have agents in Russia, of course?" He lifted his eyebrows.

His lordship cleared his throat and his voice went even stiffer. "All major military nations have a certain number of espionage operates in each other's countries. No matter how peaceful the times, this is standard procedure."

"And these are hardly peaceful times," Paul said dryly. "I'll want a complete list of your Soviet-based agents and the necessary information on how to contact them."

Lord Carrol stared at him. Finally sputtered, "Man, *why*? You're not even a British national. This is—"

Paul held up a hand. "We're cooperating with the Russian underground. Co-operating isn't quite strong enough a word. We're going to *push* them into activity if we can."

The British intelligence head looked down at the card before him. "Mr. Smith," he read. He looked up. "John Smith, I assume."

Paul said, still dryly, "Is there any other?"

Lord Carrol said, "See here, you're really Paul Koslov, aren't you?"

Paul looked at him, said nothing.

Lord Carrol said impatiently, "What you ask is impossible. Our operatives all have their own assignments, their own work. Why do you need them?"

"This is the biggest job ever, overthrowing the Soviet State. We need as many men as we can get on our team. Possibly I won't have to use them but, if I do, I want them available."

The Britisher rapped, "You keep mentioning *our team* but according to the dossier

we carry on you, Mr. Koslov, you are neither British nor even a Yankee. And you ask me to turn over our complete Soviet machinery."

Paul came to his feet and leaned over the desk; there was a paleness immediately beneath his ears and along his jaw line. "Listen," he said tightly, "if I'm not on this team, there just is no team. Just a pretense of one. When there's a real team there has to be a certain spirit. A team spirit. I don't care if you're playing cricket, football, or international cold war. If there's one thing that's important to me, that I've based my whole life upon, it's this, understand? *I've got team spirit. Perhaps no one else in the whole West has it, but I do.*"

Inwardly, Lord Carrol was boiling. He snapped, "You're neither British nor American. In other words, you are a mercenary. How do we know that the Russians won't offer you double or triple what the Yankees pay for your services?"

Paul sat down again and looked at his watch: "My time is limited," he said. "I have to leave for Paris this afternoon and be in Bonn tomorrow. I don't care what opinions you might have in regard to my mercenary motives, Lord Carrol. I've just come from Downing Street. I suggest you make a phone call there. At the request of Washington, your government has given me *carte blanche* in this matter."

Paul flew into Moscow in an Aero-flot jet, landing at Vnukovo airport on the outskirts of the city. He entered as an American businessman, a camera importer who was also interested in doing a bit of tourist sightseeing. He was traveling deluxe category, which entitled him to a Zil complete with chauffeur and an interpreter-guide when he had need of one. He was quartered in the Ukrayna, on Dorogomilovskaya Quai, a twenty-eight-floor skyscraper with a thousand rooms.

It was Paul's first visit to Moscow but he wasn't particularly thrown off. He kept up with developments and was aware of the fact that as early as the late 1950s, the Russians had begun to lick the problems of ample food, clothing, and finally shelter. Even those products once considered sheer luxuries were now in abundant supply. If material things alone had been all that counted, the Soviet man in the street wasn't doing so badly.

He spent the first several days getting the feel of the city and also making his preliminary business calls. He was interested in a new "automated" camera currently being touted by the Russians as the world's best. Fastest lens, foolproof operation, guaranteed for the life of the owner, and retailing for exactly twenty-five dollars.

He was told, as expected, that the factory and distribution point was in Leningrad and given instructions and letters of introduction.

On the fifth day he took the Red Arrow Express to Leningrad and established himself at the Astoria Hotel, 39 Herten Street. It was one of many of the Intourist hotels going back to before the revolution.

He spent the next day allowing his guide to show him the standard tourist sights. The Winter Palace, where the Bolshevik revolution was won when the mutinied cruiser

*Aurora* steamed up the river and shelled it. The Hermitage Museum, rivaled only by the Vatican and Louvre. The Alexandrovskaya Column, the world's tallest monolithic stone monument. The modest personal palace of Peter the Great. The Peter and Paul Cathedral. The Leningrad subway, as much a museum as a system of transportation.

He saw it all, tourist fashion, and wondered inwardly what the Intourist guide would have thought had he known that this was Mr. John Smith's home town.

The day following, he turned his business problem over to the guide. He wanted to meet, let's see now, oh yes, here it is, Leonid Shvernik, of the Mikoyan Camera works. Could it be arranged?

Of course it could be arranged. The guide went into five minutes of oratory on the desire of the Soviet Union to trade with the West, and thus spread everlasting peace.

An interview was arranged for Mr. Smith with Mr. Shvernik for that afternoon.

Mr. Smith met Mr. Shvernik in the latter's office at two and they went through the usual amenities. Mr. Shvernik spoke excellent English, so Mr. Smith was able to dismiss his interpreter-guide for the afternoon. When he was gone and they were alone, Mr. Shvernik went into his sales talk.

"I can assure you, sir, that not since the Japanese startled the world with their new cameras shortly after the Second War, has any such revolution in design and quality taken place. The Mikoyan is not only the *best* camera produced anywhere, but since our plant is fully automated, we can sell it for a fraction the cost of German, Japanese, or American—"

Paul Koslov came to his feet, walked quietly over to one of the pictures hanging on the wall, lifted it, pointed underneath and raised his eyebrows at the other.

Leonid Shvernik leaned back in his chair, shocked.

Paul remained there until at last the other shook his head.

Paul said, in English, "Are you absolutely sure?"

"Yes," Shvernik said. "There are no microphones in here. I absolutely know. Who are you?"

Paul said, "In the movement they call you Georgi, and you're top man in the Leningrad area."

Shvernik's hand came up from under the desk and he pointed a heavy military revolver at his visitor. "Who are you?" he repeated.

Paul ignored the gun. "Someone who knows that you are Georgi," he said. "I'm from America. Is there any chance of anybody intruding?"

"Yes, one of my colleagues. Or perhaps a secretary."

"Then I suggest we go to a bar, or some place, for a drink or a cup of coffee or whatever the current Russian equivalent might be."

Shvernik looked at him searchingly. "Yes," he said finally. "There's a place down the street." He began to stick the gun in his waistband, changed his mind and put it back into the desk drawer.

As soon as they were on the open street and out of earshot of other pedestrians,

Paul said, "Would you rather I spoke Russian? I have the feeling that we'd draw less attention than if we speak English."

Shvern timer said tightly, "Do the Intourist people know you speak Russian? If not, stick to English. Now, how do you know my name? I have no contacts with the Americans."

"I got it through my West German contacts."

The Russian's face registered unsuppressed fury. "Do they ignore the simplest of precautions! Do they reveal me to every source that asks?"

Paul said mildly, "Herr Ludwig is currently under my direction. Your secret is as safe as it has ever been."

The underground leader remained silent for a long moment. "You're an American, eh, and Ludwig told you about me? What do you want now?"

"To help," Paul Koslov said.

"How do you mean, to help? How can you help? I don't know what you're talking about."

"Help in any way you want. Money, printing presses, mimeograph machines, radio transmitters, weapons, manpower in limited amounts, know-how training, anything you need to help overthrow the Soviet government."

They had reached the restaurant. Leonid Shvern timer became the Russian export official. He ushered his customer to a secluded table. Saw him comfortably into his chair.

"Do you actually know anything about cameras?" he asked.

"Yes," Paul said, "we're thorough. I can buy cameras from you and they'll be marketed in the States."

"Good." The waiter was approaching. Shvern timer said, "Have you ever eaten caviar Russian style?"

"I don't believe so," Paul said. "I'm not very hungry."

"Nothing to do with hunger," Shvern timer said. From the waiter he ordered raisin bread, sweet butter, caviar, and a carafe of vodka.

The waiter went off for it and Shvern timer said, "To what extent are you willing to help us? Money, for instance. What kind of money: rubles, dollars? And how much? A revolutionary movement can always use money."

"Any kind," Paul said flatly, "and any amount."

Shvern timer was impressed. He said eagerly, "Any amount within reason, eh?"

Paul looked into his face and said flatly, "Any amount, period. It doesn't have to be particularly reasonable. Our only qualification would be a guarantee it is going into the attempt to overthrow the Soviets—not into private pockets."

The waiter was approaching. Shvern timer drew some brochures from his pocket, spread them before Paul Koslov and began to point out with a fountain pen various features of the Mikoyan camera.

The waiter put the order on the table and stood by for a moment for further orders.

Shvernik said, "First you take a sizable portion of vodka, like this." He poured them two jolts. "And drink it down, ah, bottoms up, you Americans say. Then you spread butter on a small slice of raisin bread; and cover it with a liberal portion of caviar. Good? Then you eat your little sandwich and drink another glass of vodka. Then you start all over again."

"I can see it could be fairly easy to get stoned, eating caviar Russian style," Paul laughed.

They went through the procedure and the waiter wandered off.

Paul said, "I can take several days arranging the camera deal with you. Then I can take a tour of the country, supposedly giving it a tourist look-see, but actually making contact with more of your organization. I can then return in the future, supposedly to make further orders. I can assure you, these cameras are going to sell very well in the States. I'll be coming back, time and again—for business reasons. Meanwhile, do you have any members among the interpreter-guides in the local Intourist offices?"

Shvernik nodded. "Yes. And, yes, that would be a good idea. We'll assign Ana Furtseva to you, if we can arrange it. And possibly she can even have a chauffeur assigned who'll also be one of our people."

That was the first time Paul Koslov heard the name Ana Furtseva.

In the morning Leonid Shvernik came to the hotel in a Mikoyan Camera Works car loaded with cameras and the various accessories that were available for the basic model. He began gushing the advantages of the Mikoyan before they were well out of the hotel.

The last thing he said as they trailed out of the hotel's portals was, "We'll drive about town, giving you an opportunity to do some snapshots and then possibly to my country dacha where we can have lunch—"

At the car he said, "May I introduce Ana Furtseva, who's been assigned as your guide-interpreter by Intourist for the balance of your stay? Ana, Mr. John Smith."

Paul shook hands.

She was blond as almost all Russians girls are blond, and with the startling blue eyes. A touch chubby, by Western standards, but less so than the Russian average. She had a disturbing pixie touch around the mouth, out of place in a dedicated revolutionist.

The car took off with Shvernik at the wheel. "You're actually going to have to take pictures as we go along. We'll have them developed later at the plant. I've told them that you are potentially a very big order. Possibly they'll try and assign one of my superiors to your account after a day or two. If so, I suggest that you merely insist that you feel I am competent and you would rather continue with me."

"Of course," Paul said. "Now then, how quickly can our assistance to you get underway?"

"The question is," Shvernik said, "just how much you can do in the way of helping our movement. For instance, can you get advanced-type weapons to us?"

The .38 Noiseless slid easily into Paul's hands. "Obviously, we can't smuggle sizeable military equipment across the border. But here, for instance, is a noiseless, recoilless hand gun. We could deliver any reasonable amount within a month."

"Five thousand?" Shvernik asked.

"I think so. You'd have to cover once they got across the border, of course. How well organized are you? If you aren't, possibly we can help there, but not in time to get five thousand guns to you in a month."

Ana was puzzled. "How could you possibly get that number across the Soviet borders?" Her voice had a disturbing Slavic throatiness. It occurred to Paul Koslov that she was one of the most attractive women he had ever met. He was amused. Women had never played a great part in his life. There had never been anyone who had really, basically, appealed. But evidently blood was telling. Here he had to come back to Russia to find such attractiveness.

He said, "The Yugoslavs are comparatively open and smuggling across the Adriatic from Italy, commonplace. We'd bring the things you want in that way. Yugoslavia and Poland are on good terms, currently, with lots of trade. We'd ship them by rail from Yugoslavia to Warsaw. Trade between Poland and U.S.S.R. is on massive scale. Our agents in Warsaw would send on the guns in well-concealed shipments. Freight cars aren't searched at the Polish-Russian border. However, your agents would have to pick up the deliveries in Brest or Kobryn, before they got as far as Pinsk."

Ana said, her voice very low, "Visiting in Sweden at the Soviet Embassy in Stockholm is a colonel who is at the head of the Leningrad branch of the KGB department in charge of counter-revolution, as they call it. Can you eliminate him?"

"Is it necessary? Are you sure that if it's done it might not raise such a stink that the KGB might concentrate more attention on you?" Paul didn't like this sort of thing. It seldom accomplished anything.

Ana said, "He knows that both Georgi and I are members of the movement."

Paul Koslov gaped at her. "You mean your position is known to the police?"

Shvernik said, "Thus far he has kept the information to himself. He found out when Ana tried to enlist his services."

Paul's eyes went from one to the other of them in disbelief. "Enlist his services? How do you know he hasn't spilled everything? What do you mean he's kept the information to himself so far?"

Ana said, her voice so low as to be hardly heard, "He's my older brother. I'm his favorite sister. How much longer he will keep our secret I don't know. Under the circumstances, I can think of no answer except that he be eliminated."

It came to Paul Koslov that the team on this side could be just as dedicated as he was to his own particular cause.

He said, "A Colonel Furtseva at the Soviet Embassy in Stockholm. Very well. A

Hungarian refugee will probably be best. If she's caught, the reason for the killing won't point in your direction."

"Yes," Ana said, her sensitive mouth twisting. "In fact, Anastas was in Budapest during the suppression there in 1956. He participated."

The dacha of Leonid Shvernik was in the vicinity of Petrodvorets on the Gulf of Finland, about eighteen miles from Leningrad proper. It would have been called a summer bungalow in the States. On the rustic side. Three bedrooms, a moderately large living-dining room, kitchen, bath, even a car port. Paul Koslov took a mild satisfaction in deciding that an American in Shvernik's equivalent job could have afforded more of a place than this.

Shvernik was saying, "I hope it never gets to the point where you have to go on the run. If it does, this house is a center of our activities. At any time you can find clothing here, weapons, money, food. Even a small boat on the waterfront. It would be possible, though difficult, to reach Finland."

"Right," Paul said. "Let's hope there'll never be occasion."

Inside, they sat around a small table, over the inevitable bottle of vodka and cigarettes, and later coffee.

Shvernik said, "Thus far we've rambled around hurriedly on a dozen subjects but now we must become definite."

Paul nodded.

"You come to us and say you represent the West and that you wish to help overthrow the Soviets. Fine. How do we know you do not actually represent the KGB or possibly the MVD?"

Paul said, "I'll have to prove otherwise by actions." He came to his feet and, ignoring Ana, pulled out his shirt-tail, unbuttoned the top two buttons of his pants and unbuckled the money belt beneath.

He said, "We have no idea what items you'll be wanting from us in the way of equipment, but as you said earlier all revolutions need money. So here's the equivalent of a hundred thousand American dollars—in rubles, of course." He added apologetically, "The smallness of the amount is due to bulk. Your Soviet money doesn't come in sufficiently high denominations for a single person to carry really large amounts."

He tossed the money belt to the table, rearranged his clothing and returned to his chair.

Shvernik said, "A beginning, but I am still of the opinion that we should not introduce you to any other members of the organization until we have more definite proof of your background."

"That's reasonable," Paul agreed. "Now what else?"

Shvernik scowled at him. "You claim you are an American but you speak as good Russian as I do."

"I was raised in America," Paul said, "but I never became a citizen because of some minor technicality while I was a boy. After I reached adulthood and first began



working for the government, it was decided that it might be better, due to my type of specialization, that I continue to remain legally not an American."

"But actually you are Russian?"

"I was born here in Leningrad," Paul said evenly.

Ana leaned forward, "Why then, actually, you're a traitor to Russia."

Paul laughed. "Look who's talking. A leader of the underground."

Ana wasn't amused. "But there is a difference in motivation. I fight to improve my country. You fight for the United States and the West."

"I can't see much difference. We're both trying to overthrow a vicious bureaucracy." He laughed again. "You hate them as much as I do."

"I don't know." She frowned, trying to find words, dropped English and spoke in Russian. "The Communists made mistakes, horrible mistakes and—especially under Stalin—were vicious beyond belief to achieve what they wanted. But they did achieve it. They built our country into the world's strongest."

"If you're so happy with them, why are you trying to eliminate the Commies? You don't make much sense."

She shook her head, as though it was he who made no sense. "They are through now, no longer needed. A hindrance to progress." She hesitated, then, "When I was a student I remember being so impressed by something written by Nehru that I memorized it. He wrote it while in a British jail in 1935. Listen." She closed her eyes and quoted:

*"Economic interests shape the political views of groups and classes. Neither reason nor moral considerations override these interests. Individuals may be converted, they may surrender their special privileges, although this is rare enough, but classes and groups do not do so. The attempt to convert a governing and privileged class into forsaking power and giving up its unjust privileges has therefore always so far failed, and there seems to be no reason whatever to hold that it will succeed in the future."*

Paul was frowning at her. "What's your point?"

"My point is that the Communists are in the position Nehru speaks of. They're in power and won't let go. The longer they remain in power after their usefulness is over, the more vicious they must become to maintain themselves. Since this is a police state the only way to get them out is through violence. That's why I find myself in the underground. But I am a patriotic Russian!" She turned to him. "Why do you hate the Soviets so, Mr. Smith?"

The American agent shrugged. "My grandfather was a member of the minor aristocracy. When the Bolsheviks came to power he joined Wrangel's White Army. When the Crimea fell he was in the rear guard. They shot him."

"That was your grandfather?" Shvernik said.

"Right. However, my own father was a student at the Petrograd University at that time. Left-wing inclined, in fact. I think he belonged to Kerensky's Social Democrats. At any rate, in spite of his upper class background he made out all right for a time."

In fact he became an instructor, and our early life wasn't particularly bad." Paul cleared his throat. "Until the purges in the 1930s. It was decided that my father was a Bukharinist Right Deviationist, whatever that was. They came and got him one night in 1938 and my family never saw him again."

Paul disliked the subject. "To cut it short, when the war came along, my mother was killed in the Nazi bombardment of Leningrad. My brother went into the army and became a lieutenant. He was captured by the Germans when they took Kharkov, along with a hundred thousand or so others of the Red Army. When the Soviets, a couple of years later, pushed back into Poland, he was recaptured."

Ana said, "You mean liberated from the Germans?"

"Recaptured, is the better word. The Soviets shot him. It seems that officers of the Red Army aren't allowed to surrender."

Ana said painfully, "How did you escape all this?"

"My father must have seen the handwriting on the wall. I was only five years old when he sent me to London to a cousin. A year later we moved to the States. Actually, I have practically no memories of Leningrad, very few of my family. However, I am not very fond of the Soviets."

"No," Ana said softly.

Shvernik said, "And what was your father's name?"

"Theodore Koslov."

Shvernik said, "I studied French literature under him."

Ana stiffened in her chair, and her eyes went wide. "Koslov," she said. "You must be Paul Koslov."

Paul poured himself another small vodka. "In my field it is a handicap to have a reputation. I didn't know it had extended to the man in the street on this side of the Iron Curtain."

It was by no means the last trip that Paul Koslov was to make to his underground contacts, nor the last visit to the dacha at Petrodvorets.

In fact, the dacha became the meeting center of the Russian underground with their liaison agent from the West. Through it funneled the problems involved in the logistics of the thing. Spotted through the rest of the vast stretches of the country, Paul had his local agents, American, British, French, West German. But this was the center.

The Mikoyan Camera made a great success in the States. And little wonder. Unknown to the Soviets, the advertising campaign that sold it cost several times the income from the sales. All they saw were the continued orders, the repeated visits of Mr. John Smith to Leningrad on buying trips. Leonid Shvernik was even given a promotion on the strength of his so ably cracking the American market. Ana Furtseva was automatically assigned to Paul as interpreter-guide whenever he appeared in the Soviet Union's second capital.

In fact, when he made his "tourist" jaunts to the Black Sea region, to the Urals,

to Turkestan, to Siberia, he was able to have her assigned to the whole trip with him. It gave a tremendous advantage in his work with the other branches of the underground.

Questions, unthought of originally when Paul Koslov had been sent into the U.S.S.R., arose as the movement progressed.

On his third visit to the dacha he said to Shvern timer and three others of the organization's leaders who had gathered for the conference, "Look, my immediate superior wants me to find out who is to be your top man, the chief of state of the new regime when Number One and the present hierarchy have been overthrown."

Leonid Shvern timer looked at him blankly. By this stage, he, as well as Ana, had become more to Paul than just pawns in the game being played. For some reason, having studied under the older Koslov seemed to give a personal touch that had grown.

Nikolai Kirichenko, a higher-up in the Moscow branch of the underground, looked strangely at Paul, then at Shvern timer. "What have you told him about the nature of our movement?" he demanded.

Paul said, "What's the matter? All I wanted to know was who was scheduled to be top man."

Shvern timer said, "Actually, I suppose we have had little time to discuss the nature of the new society we plan. We've been busy working on the overthrow of the Communists. However, I thought . . ."

Paul was uneasy now. Leonid was right. Actually in his association with both Ana and Leonid Shvern timer they had seldom mentioned what was to follow the collapse of the Soviets. It suddenly occurred to him how overwhelmingly important this was.

Nikolai Kirichenko, who spoke no English, said in Russian, "See here, we are not an organization attempting to seize power for ourselves."

This was a delicate point, Paul sensed. Revolutions are seldom put over in the name of reaction or even conservatism. Whatever the final product, they are invariably presented as being motivated by liberal idealism and progress.

He said, "I am familiar with the dedication of your organization. I have no desire to underestimate your ideals. However, my question is presented with good intentions and remains unanswered. You aren't anarchists, I know. You expect a responsible government to be in control after the removal of the police state. So I repeat, who is to be your head man?"

"How would we know?" Kirichenko blurted in irritation. "We're working toward a democracy. It's up to the Russian people to elect any officials they may find necessary to govern the country."

Shvern timer said, "However, the very idea of a *head man*, as you call him, is opposed to what we have in mind. We aren't looking for a super-leader. We've had enough of leaders. Our experience is that it is too easy for them to become misleaders. If the history of this century has proven anything with its Mussolinis, Hitlers, Stalins, Chiangs, and Maos, it is that the search for a leader to take over the problems of a people is a vain one. The job has to be done by the people themselves."

Paul hadn't wanted to get involved in the internals of their political ideology. It was dangerous ground. For all he knew, there might be wide differences within the ranks of the revolutionary movement. There almost always were. He couldn't take sides. His only interest in all this was the overthrow of the Soviets.

He covered. "Your point is well taken, of course. I understand completely. Oh, and here's one other matter for discussion. These radio transmitters for your underground broadcasts."

It was a subject in which they were particularly interested. The Russians leaned forward.

"Here's the problem," Kirichenko said. "As you know, the Soviet Union consists of fifteen republics. In addition there are seventeen Autonomous Soviet Socialist Republics that coexist within these basic fifteen republics. There are also ten of what we call Autonomous Regions. Largely, each of these political divisions speak different languages and have their own cultural differences."

Paul said, "Then it will be necessary to have transmitters for each of these areas?"

"Even more. Because some are so large that we will find it necessary to have more than one underground station."

Leonid Shvernik said worriedly, "And here is another thing. The KGB has the latest in equipment for spotting the location of an illegal station. Can you do anything about this?"

Paul said, "We'll put our best electronics men to work. The problem, as I understand it, is to devise a method of broadcasting that the secret police can't trace."

They looked relieved. "Yes, that is the problem," Kirichenko said.

He brought up the subject sometime later when he was alone with Ana. They were strolling along the left bank of the Neva River, paralleling the Admiralty Building, supposedly on a sightseeing tour.

He said, "I was discussing the future government with Leonid and some of the others the other day. I don't think I got a very clear picture of it." He gave her a general rundown of the conversation.

She twisted her mouth characteristically at him. "What did you expect, a return to Czarism? Let me see, who is pretender to the throne these days? Some Grand Duke in Paris, isn't it?"

He laughed with her. "I'm not up on such questions," Paul admitted. "I think I rather pictured a democratic parliamentary government, somewhere between the United States and England."

"Those are governmental forms based on a capitalist society, Paul."

Her hair gleamed in the brightness of the sun and he had to bring his mind back to the conversation.

"Well, yes. But you're overthrowing the Communists. That's the point, isn't it?"

"Not the way you put it. Let's see if I can explain. To begin with, there have only

been three bases of government evolved by man . . . I'm going to have to simplify this."

"It isn't my field, but go on," Paul said. She wore less lipstick than you'd expect on an American girl, but it went with her freshness.

"The first type of governmental system was based on the family. Your American Indians were a good example. The family, the clan, the tribe. In some cases, like the Iroquois Confederation, a nation of tribes. You were represented in the government according to the family or clan in which you were born."

"Still with you so far," Paul said. She had a very slight dimple in her left cheek. Dimples went best with blonds, Paul decided.

"The next governmental system was based on property. Chattel slavery, feudalism, capitalism: In ancient Athens, for example, those Athenians who owned the property of the City-State, and the slaves with which to work it, also governed the nation. Under feudalism, the nobility owned the country and governed it. The more land a noble owned, the larger his voice in government. I'm speaking broadly, of course."

"Of course," Paul said. He decided that she had more an American-type figure than was usual here. He brought his concentration back to the subject. "However, that doesn't apply under capitalism. We have democracy. Everyone votes, not just the owner of property."

Ana was very serious about it. "You mustn't use the words capitalism and democracy interchangeably. You can have capitalism, which is a social system, without having democracy, which is a political system. For instance, when Hitler was in power in Germany the government was a dictatorship but the social system was still capitalism."

Then she grinned at him mischievously. "Even in the United States I think you'll find that the people who own a capitalist country run the country. Those who control great wealth have a large say in the running of the political parties, both locally and nationally. Your smaller property owners have a smaller voice in local politics. But how large a lobby does your itinerant harvest worker in Texas have in Washington?"

Paul said, slightly irritated now, "This is a big subject and I don't agree with you. However, I'm not interested now in the government of the United States. I want to know what you people have in store for Russia, if and when you take over."

She shook her head in despair at him. "That's the point the others were trying to make to you. We have no intention of taking over. We don't want to and probably couldn't even if we did want to. What we're advocating is a new type of government based on a new type of representation."

He noticed the faint touch of freckles about her nose, her shoulders—to the extent her dress revealed them—and on her arms. Her skin was fair as only the northern races produce.

Paul said, "All right. Now we get to this third base of government. The first was the family, the second was property. What else is there?"

"In an ultramodern, industrialized society, there is your method of making your livelihood. In the future you will be represented from where you work. From your industry or profession. The parliament, or congress, of the nation would consist of elected members from each branch of production, distribution, communication, education, medicine—"

"Syndicalism," Paul said, "with some touches of Technocracy."

She shrugged. "Your American Technocracy of the 1930s I am not too familiar with, although I understand power came from top to bottom, rather than from bottom to top, democratically. The early syndicalists developed some of the ideas which later thinkers have elaborated upon, I suppose. So many of these terms have become all but meaningless through sloppy use. What in the world does Socialism mean, for instance? According to some, your Roosevelt was a Socialist. Hitler called himself a National Socialist. Mussolini once edited a Socialist paper. Stalin called himself a Socialist and the British currently have a Socialist government—mind you, with a Queen on the throne."

"The advantage of voting from where you work rather than from where you live doesn't come home to me," Paul said.

"Among other things, a person knows the qualifications of the people with whom he works," Ana said, "whether he is a scientist in a laboratory or a technician in an automated factory. But how many people actually know anything about the political candidates for whom they vote?"

"I suppose we could discuss this all day," Paul said. "But what I was getting to is, what happens when your outfit takes over here in Leningrad? Does Leonid become local commissar, or head of police, or . . . well, whatever new title you've dreamed up?"

Ana laughed at him, as though he was impossible. "Mr. Koslov, you have a mind hard to penetrate. I keep telling you, we, the revolutionary underground, have no desire to take over and don't think that we could even if we wished. When the Soviets are overthrown by our organization, the new government will assume power. We disappear as an organization. Our job is done. Leonid? I don't know, perhaps his fellow employees at the Mikoyan Camera works will vote him into some office in the plant, if they think him capable enough."

"Well," Paul sighed, "it's your country. I'll stick to the American system." He couldn't take his eyes from the way her lips tucked in at the sides.

Ana said, "How long have you been in love with me, Paul?"

"What?"

She laughed. "Don't be so blank. It would be rather odd, wouldn't it, if two people were in love, and neither of them realized what had happened?"

"Two people in love," he said blankly, unbelievably.

Leonid Shvernik and Paul Koslov were bent over a map of the U.S.S.R. The former

pointed out the approximate location of the radio transmitters. "We're not going to use them until the last moment," he said. "Not until the fat is in the fire. Then they will all begin at once. The KGB and MVD won't have time to knock them out."

Paul said, "Things are moving fast. Faster than I had expected. We're putting it over, Leonid."

Shvern timer said, "Only because the situation is ripe. It's the way revolutions work."

"How do you mean?" Paul said absently, studying the map.

"Individuals don't put over revolutions. The times do; the conditions that apply. Did you know that six months before the Bolshevik revolution took place Lenin wrote that he never expected to live to see the Communist take over in Russia? The thing was that the conditions were there. The Bolsheviks, as few as they were, were practically thrown into power."

"However," Paul said dryly, "it was mighty helpful to have such men as Lenin and Trotsky handy."

Shvern timer shrugged. "The times make the men. Your own American Revolution is probably better known to you. Look at the men those times produced. Jefferson, Paine, Madison, Hamilton, Franklin, Adams. And once again, if you had told any of these men, a year before the Declaration of Independence, that a complete revolution was the only solution to the problems that confronted them, they would probably have thought you insane."

It was a new line of thought for Paul Koslov. "Then what does cause a revolution?"

"The need for it. It's not just our few tens of thousands of members of the underground who see the need for overthrowing the Soviet bureaucracy. It's millions of average Russians in every walk of life and every strata, from top to bottom. What does the scientist think when some bureaucrat knowing nothing of his speciality comes into the laboratory and directs his work? What does the engineer in an automobile plant think when some silly politician decides that since cars in capitalist countries have four wheels, that Russia should surpass them by producing a car with five? What does your scholar think when he is told what to study, how to interpret it, and then what to write? What does your worker think when he sees the bureaucrat living in luxury while his wage is a comparatively meager one? What do your young people think in their continual striving for a greater degree of freedom than was possessed by their parents? What does your painter think? Your poet? Your philosopher?"

Shvern timer shook his head. "When a nation is ready for revolution, it's the *people* who put it over. Often, the so-called leaders are hard put to run fast enough to stay out in front."

Paul said, "After it's all over, we'll go back to the States. I know a town up in the Sierras called Grass Valley. Hunting, fishing, mountains, clean air, but still available to cities such as San Francisco where you can go for shopping and for restaurants and entertainment."

She kissed him again.

Paul said, "You know, I've done this sort of work—never on this scale before, of course—ever since I was nineteen. Nineteen, mind you! And this is the first time I've realized I'm tired of it. Fed up to here. I'm nearly thirty-five, Ana, and for the first time I want what a man is expected to want out of life. A woman, a home, children. You've never seen America. You'll love it. You'll like Americans too, especially the kind that live in places like Grass Valley."

Ana laughed softly. "But we're Russians, Paul."

"Eh?"

"Our home and our life should be here, in Russia. The New Russia that we'll have shortly."

He scoffed at her. "Live here when there's California? Ana, Ana, you don't know what living is. Why—"

"But, Paul, I'm a Russian. If the United States is a more pleasant place to live than Russia will be, when we have ended the police state, then it is part of my duty to improve Russia."

It suddenly came to him that she meant it. "But I was thinking, all along, that after this was over we'd be married. I'd be able to show you *my* country."

"And, I don't know why, I was thinking we both expected to be making a life for ourselves here."

They were silent for a long time in mutual misery.

Paul said finally, "This is no time to make detailed plans. We love each other, that should be enough. When it's all over, we'll have the chance to look over each other's way of life. You can visit the States with me."

"And I'll take you on a visit to Armenia. I know a little town in the mountains there which is the most beautiful in the world. We'll spend a week there. A month! Perhaps one day we can build a summer dacha there." She laughed happily. "Why, practically everyone lives to be a hundred years old in Armenia."

"Yeah, we'll have to go there sometime," Paul said quietly.

He'd been scheduled to see Leonid that night but at the last moment the other sent Ana to report that an important meeting was to take place. A meeting of underground delegates from all over the country. They were making basic decisions on when to move—but Paul's presence wasn't needed.

He had no feeling of being excluded from something that concerned him. Long ago it had been decided that the less details known by the average man in the movement about Paul's activities, the better it would be. There is always betrayal and there are always counter-revolutionary agents within the ranks of an organization such as this. What was the old Russian proverb? When four men sit down to discuss revolution, three are police spies and the fourth a fool.

Actually, this had been astonishingly well handled. He had operated for over a year



with no signs that the KGB was aware of his activities. Leonid and his fellows were efficient. They had to be. The Commies had been slaughtering anyone who opposed them for forty years now. To survive as a Russian underground you had to be good.

No, it wasn't a feeling of exclusion. Paul Koslov was stretched out on the bed of his king-size Astoria Hotel room, his hands behind his head and staring up at the ceiling. He recapitulated the events of the past months from the time he'd entered the Chief's office in Washington until last night at the dacha with Leonid and Ana.

The whole thing.

And over and over again.

There was a line of worry on his forehead.

He swung his feet to the floor and approached the closet. He selected his most poorly pressed pair of pants, and a coat that mismatched it. He checked the charge in his .38 Noiseless, and replaced the weapon under his left arm. He removed his partial bridge, remembering as he did so how he had lost the teeth in a street fight with some Commie union organizers in Panama, and replaced the porcelain bridge with a typically Russian gleaming steel one. He stuffed a cap into his back pocket, a pair of steel-rimmed glasses into an inner pocket, and left the room.

He hurried through the lobby, past the Intourist desk, thankful that it was a slow time of day for tourist activity.

Outside, he walked several blocks to 25th of October Avenue and made a point of losing himself in the crowd. When he was sure that there could be no one behind him, he entered a *pivnaya*, had a glass of beer, and then disappeared into the toilet. There he took off the coat, wrinkled it a bit more, put it back on and also donned the cap and glasses. He removed his tie and thrust it into a side pocket.

He left, in appearance a more or less average workingman of Leningrad, walked to the bus station on Nashimson Volodarski and waited for the next bus to Petrodvorets. He would have preferred the subway, but the line didn't run that far as yet.

The bus took him to within a mile and a half of the dacha, and he walked from there.

By this time Paul was familiar with the security measures taken by Leonid Shvern timer and the others. None at all when the dacha wasn't in use for a conference or to hide someone on the lam from the KGB. But at a time like this, there would be three sentries, carefully spotted.

This was Paul's field now. Since the age of nineteen, he told himself wryly. He wondered if there was anyone in the world who could go through a line of sentries as efficiently as he could.

He approached the dacha at the point where the line of pine trees came nearest to it. One his belly he watched for ten minutes before making the final move to the side of the house. He lay up against it, under a bush.

From an inner pocket he brought the spy device he had acquired from Derek Stevens's Rube Goldberg department. It looked and was supposed to look considerably

like a doctor's stethoscope. He placed it to his ears, pressed the other end to the wall of the house.

Leonid Shvernik was saying, "Becoming killers isn't a pleasant prospect but it was the Soviet who taught us that the end justifies the means. And so ruthless a dictatorship have they established that there is literally no alternative. The only way to remove them is by violence. Happily, so we believe, the violence need extend to only a small number of the very highest of the hierarchy. Once they are eliminated and our transmitters proclaim the new revolution, there should be little further opposition."

Someone sighed deeply—Paul was able to pick up even that.

"Why discuss it further?" somebody whose voice Paul didn't recognize asked. "Let's get onto other things. These broadcasts of ours have to be the ultimate in the presentation of our program. The assassination of Number One and his immediate supporters is going to react unfavorably at first. We're going to have to present unanswerable arguments if our movement is to sweep the nation as we plan."

A new voice injected, "We've put the best writers in the Soviet Union to work on the scripts. For all practical purposes they are completed."

"We haven't yet decided what to say about the H-bomb, the missiles, all the endless equipment of war that has accumulated under the Soviets, not to speak of the armies, the ships, the aircraft and all the personnel who man them."

Someone else, it sounded like Nikolai Kirichenko, from Moscow, said, "I'm chairman of the committee on that. It's our opinion that we're going to have to cover that matter in our broadcasts to the people and the only answer is that until the West has agreed to nuclear disarmament, we're going to have to keep our own."

Leonid said, and there was shock in his voice, "But that's one of the most basic reasons for the new revolution, to eliminate this mad arms race, this devoting half the resources of the world to armament."

"Yes, but what can we do? How do we know that the Western powers won't attack? And please remember that it is no longer just the United States that has nuclear weapons. If we lay down our defenses, we are capable of being destroyed by England, France, West Germany, even Turkey or Japan! And consider, too, that the economies of some of the Western powers are based on the production of arms to the point that if such production ended, overnight, depressions would sweep their nations. In short, they can't afford a world without tensions."

"It's a problem for the future to solve," someone else said. "But meanwhile I believe the committee is right. Until it is absolutely proven that we need have no fears about the other nations, we must keep our own strength."

Under his hedge, Paul grimaced, but he was getting what he came for: a discussion of policy, without the restrictions his presence would have put on the conversation.

"Let's deal with a more pleasant subject," a feminine voice said. "Our broadcasts should stress to the people that for the first time in the history of Russia we will be truly in the position to lead the world! For fifty years the Communists attempted to

convert nations into adopting their system, and largely they were turned down. Those countries that did become Communist either did so at the point of the Red Army's bayonet or under the stress of complete collapse such as in China. But tomorrow, and the New Russia? Freed from the inadequacy and inefficiency of the bureaucrats who have misruled us, we'll develop a productive machine that will be the envy of the world!" Her voice had all but a fanatical ring.

Someone else chuckled, "If the West thought they had competition from us before, wait until they see the New Russia!"

Paul thought he saw someone, a shadow, at the side of the clearing. His lips thinned and the .38 Noiseless was in his hand magically.

False alarm.

He turned back to the conversation inside.

Kirichenko's voice was saying, "It is hard for me not to believe that within a period of a year or so half the countries of the world will follow our example."

"Half!" someone laughed exuberantly. "The world, Comrades! The new system will sweep the world. For the first time in history the world will see what Marx and Engels were *really* driving at!"

Back at the hotel, toward morning, Paul was again stretched out on the bed, hands under his head, his eyes unseeingly staring at the ceiling as he went through his agonizing reappraisal.

There was Ana.

And there were even Leonid Shvernik and some of the others of the underground. As close friends as he had ever made in a life that admittedly hadn't been prone to friendship.

And there was Russia, the country of his birth. Beyond the underground movement, beyond the Soviet regime, beyond the Romanoff Czars. Mother Russia. The land of his parents, his grandparents, the land of his roots.

And, of course, there was the United States and the West. The West which had received him in his hour of stress in his flight from *Mother* Russia. Mother Russia, ha! What kind of a mother had seen been to the Koslovs? To his grandfather, his father, his mother and brother? Where would he, Paul, be today had he as a child not been sent fleeing to the West?

And his life work. What of that? Since the age of nineteen, when a normal teenager would have been in school, preparing himself for life. Since nineteen he had been a member of the anti-Soviet team.

A star, too! Paul Koslov, the trouble-shooter, the always reliable, cold, ruthless. Paul Koslov, on whom you could always depend to carry the ball.

Anti-Soviet, or anti-Russian?

Why kid himself about his background. It meant nothing. He was an American. He had only the faintest of memories of his family or of the country. Only because

people told him so did he know he was a Russian. He was as American as it is possible to get.

What had he told such Westerners, born and bred, as Lord Carrol and Derek Stevens? *If he wasn't a member of the team, there just wasn't a team.*

But then, of course, there was Ana.

Yes, Ana. But what, actually, was there in the future for them? Now that he considered it, could he really picture her sitting in the drug store on Montez Street, Grass Valley, having a banana split?

Ana was Russian. As patriotic a Russian as it was possible to be. As much a dedicated member of the Russian team as it was possible to be. And as a team member, she, like Paul, knew the chances that were involved. You didn't get to be a star by sitting on the bench. She hadn't hesitated, in the clutch, to sacrifice her favorite brother.

Paul Koslov propped the Tracy, the wristwatch-like radio, before him, placing its back to a book. He made it operative, began to repeat, "Paul calling. Paul calling."

A thin, faraway voice said finally, "O.K. Paul. I'm receiving."

Paul Koslov took a deep breath and said, "All right, this is it. In just a few days we're all set to kick off. Understand?"

"I understand, Paul."

"Is it possible that anybody else can be receiving this?"

"Absolutely impossible."

"All right, then this is it. The boys here are going to start their revolution by going by knocking off not only Number One, but also Two, Three, Four, Six and Seven of the hierarchy. Number Five is one of theirs."

The thin voice said, "You know I don't want details. They're up to you."

Paul grimaced. "This is why I called. You've got to make—or someone's got to make—one hell of an important decision in the next couple of days. It's not up to me. For once I'm not to be brushed off with that 'don't bother me with details,' routine."

"Decision? What decision? You said everything was all ready to go, didn't you?"

"Look," Paul Koslov said, "remember when you gave me this assignment. When you told me about the Germans sending Lenin up to Petrograd in hopes he'd start a revolution and the British sending Somerset Maugham to try and prevent it?"

"Yes, yes, man. What's that got to do with it?" Even over the long distance, the Chief's voice sounded puzzled.

"Supposedly the Germans were successful, and Maugham failed. But looking back at it a generation later, did the Germans win out by helping bring off the Bolshevik revolution? The Soviets destroyed them for all time as a first-rate power at Stalingrad, twenty-five years afterwards."

The voice from Washington was impatient. "What's your point, Paul?"

"My point is this. When you gave me this assignment, you told me I was in the

position of the German who engineered bringing Lenin up to Petrograd to start the Bolsheviks rolling. Are you *sure* that the opposite isn't true? Are you sure it isn't Maugham's job I should have? Let me tell you, Chief, these boys I'm working with now are sharp, they've got more on the ball than these Commie bureaucrats running the country have a dozen times over.

"Chief, this is the decision that has to be made in the next couple of days. Just who do we want eliminated? Are you sure you don't want me to tip off the KGB to this whole conspiracy?" ■

## SCIENCE FICTION **analog** SCIENCE FACT

### BACK ISSUES AVAILABLE

If you have missed some issues, check off what you'd like and mail with your check or money order. Supplies are limited. Please allow four to six weeks for delivery.

- |                                        |                                        |                                        |
|----------------------------------------|----------------------------------------|----------------------------------------|
| <input type="checkbox"/> Mar. 2, 1981  | <input type="checkbox"/> Oct. 12, 1981 | <input type="checkbox"/> May 1982      |
| <input type="checkbox"/> Mar. 30, 1981 | <input type="checkbox"/> Nov. 9, 1981  | <input type="checkbox"/> Jun. 1982     |
| <input type="checkbox"/> Apr. 27, 1981 | <input type="checkbox"/> Dec. 7, 1981  | <input type="checkbox"/> Jul. 1982     |
| <input type="checkbox"/> May 25, 1981  | <input type="checkbox"/> Jan. 4, 1982  | <input type="checkbox"/> Aug. 1982     |
| <input type="checkbox"/> Aug. 17, 1981 | <input type="checkbox"/> Feb. 1, 1982  | <input type="checkbox"/> Sep. 1982     |
| <input type="checkbox"/> Sep. 14, 1981 | <input type="checkbox"/> Mar. 1, 1982  | <input type="checkbox"/> Mid-Sep. 1982 |
|                                        | <input type="checkbox"/> Mar. 29, 1982 |                                        |

MAIL TO: **ANALOG SCIENCE FICTION/SCIENCE FACT MAGAZINE**  
P.O. Box 999 • Ridgefield, N.J. 07657

Enclosed is my check or money order for \$ \_\_\_\_\_ to cover \_\_\_\_\_ copies at \$3.50 each. (price includes postage and handling.)

name \_\_\_\_\_

street/no. \_\_\_\_\_

city \_\_\_\_\_

state \_\_\_\_\_

zip. \_\_\_\_\_

# THE PURPOSE

A. E. van Vogt

*Many early science fiction stories influenced my own work. If I had not read science fiction in my youth, I would probably never have thought of writing stories in the genre.*

*In the same way it is now apparent that my work influenced later writers in the field. Accordingly, if you have read an organ bank story in recent years, it may be of interest to you to learn that, so far as I know, "The Purpose" was the first story ever published in science fiction which dealt with what has since been called an organ bank.*

*My story was published about the time that I was putting the finishing touches on The World of Null-A, which dealt with the meaning of meaning. Whereas "The Purpose" represented one of my wilder flights of imagination—although it opens prosaically enough.*

*I mention the wildness because later organ bank stories were more practical and down-to-earth—as I recall—than this first story on the subject.*

*In a way it is surprising that no science fiction writer thought of the organ bank idea until I launched the concept. After all, today, in the real world, in medical surgery, individuals have organs "donated" to them. The donors are generally people who are on the verge of dying, or already dead in an accident. The former sign a donor document on their death beds. Relatives of the latter are often asked to make the donation, and a percentage of them do so, out of compassion for someone who has a desperate need.*

*No matter how you look at it, it all seems pretty grim. And surely every recipient becomes, within himself, a special situation.*

*Meaning that, emotionally, he is a changed person, and that mentally he surely adjusts only slowly to the realization that a dead person's heart (lung? liver? kidney? etc.) is making it possible for his life to continue.*

*However, I have to tell you that none of these considerations were in my mind when I wrote that first, wild piece of organ fiction:*

*I was a story writer with a far-out imagination. "The Purpose," though it takes place in our own mundane world, was one of the more far-out examples of my craft.*

VIRGINIA MENTION'S PRESENCE was quite accidental. She came out of a restaurant, and there were the fire trucks, and the smoke pouring out of the open door of a one-story building.

Virginia walked over, her reporter's instinct vaguely roused. Fires were long since out of her reportorial field, except that she was on the scene of this one. She visualized the tiny stick she would write:

*Fire of so-and-so origin broke out this morning on the premises of thingumajerk. Slight damage.*

The sign that hung out in front of the building read:

### FUTURIAN SCIENTIFIC LABORATORIES

• NEUROLOGICAL AND ORGANICOLOGICAL RESEARCH

She wrote that down, and the number, 411 Wainworth Avenue. When she had finished, the firemen were stamping out of the door. Virginia grabbed the chief by the arm.

"I'm from the *Herald*. I happened to be passing. Anything important?"

The chief was a big clumsy man, slow of speech.

"Naw. Outer office furniture. Boss not in. Fire seems to have started in a wastepaper basket from a cigarette stub."

He went on, grinning: "The receptionist in there is a queer young drip. Never saw anybody so scared in my life. He was gobbling like a turkey when I left. Didn't speak a single understandable word."

— He chuckled callously: "If that's the way he feels now, I can imagine what he'll be like when the boss arrives. Well, so long."

He walked off to his car.

Virginia Mention hesitated. Actually, she had all the information she wanted. But there was such a thing as personal curiosity. She walked over to the still-open door.

It was a small office that she peered into. It contained three chairs and a streamlined counter in blue and white. That is, it had been blue and white. Now, it was a half-charred mass, made uglier by the water that had been ruthlessly poured on it. Behind the counter was an electric adding machine of some kind.

Behind the counter, also, was the receptionist.

Virginia's mind suffered a considerable pause. The young man was tall and very thin, and he wore clothes that were too short for him in length and too wide for him in width. His face was hollow-cheeked and colorless. His chin, his forehead and his neck were covered with pimples, and he had an Adam's apple that kept moving and bobbing.

The apparition stared at her out of big, brown, terrified eyes. Its lips parted and spluttered gibberish at her. At least, it would have been gibberish to anyone unaccustomed to the mumblings of editors and interviewees.

Virginia Mention translated aloud, transposing the pronoun: "What do I want? I'm a reporter. What's the value of the furniture?"

"Ubbie dubble dow," said the young man.

"Don't know. Hm-m, looks like a pretty complete mess, except for that comptometer, or whatever it is you've got behind the counter. I think I'll just put: 'Damage to office furniture.'"

She wrote, then closed her book with a snap. "Well, be seeing you."

She intended to turn away and leave. But there was an interruption. A buzzer sounded. A man's deep, quiet voice said from some indeterminate point in the wall behind the young man:

"Edgar Gray, press button 74."

The young man galvanized. For a moment, he seemed to be all arms and long legs, leaping behind the counter. Somehow he untangled himself. One of his long, bony fingers touched a button on the comptometer.

He stood then, eyes closed, pressing it down. Virginia had thought his face was as colorless as it could possibly be. But now it blanched, and visibly grew paler. A curious darkness seemed to creep over it finally as if the half-life of the young man's body was suffering a great defeat.

The effect, the impression was unnaturally sharp. Virginia stared blankly.

A minute passed; and then slowly the ungainly creature drew a deep breath. He took his hand away from the button. He opened his eyes. He saw Virginia. A vague flush of returning color stabbed at the lines of his cheekbones.

Virginia Mention found her voice: "What on earth was that?"

She saw that Edgar Gray was too far gone even to gibber. He stared at her glassily, and she had the impression that he was going to faint. With an audible gasp, he sank down in the charred chair. He slumped there, looking like a sick dog.

Virginia said in a kindly voice: "Look, Edgar, the moment your boss gets here, you go home and lie down. And why not try eating something once in a while. It's good for the health."

She turned and went out. And forgot about him.

She had been gone about five minutes when a woman's clear, vibrant, yet low-pitched voice said from the wall:

"Edgar!"

The gangling youth looked startled. Then, agitated, he stood up. The woman's voice said insistently:

"Edgar, draw the blinds, shut the door, and turn on the lights."

Like an automaton, the young man carried out the commands. But his hands were shaking when he paused finally, and stared wide-eyed at the door which separated the rear of the building from the front.

There was a stirring there, a vague flickering of pinpoints of light. The door did not open, but a woman stepped through it.

Through it!



Daemonic woman! Her form was indistinct, insubstantial. She wore a white gown of a flimsy, transparent material. For a moment, the door was visible beyond her, through her.

She stood there as if in some strange and unearthly fashion waiting for physical completion.

Abruptly, she was no longer transparent. But whole. Real. She walked forward. Her hand came up, and slapped his face, hard.

He half staggered, but managed to keep his balance. He began to whimper, tears of chagrin and hate.

"Edgar, you were told not to smoke."

Again, the hand came up. Again, the resounding slap.

"You will remain here your usual time, and perform your duties. Do you understand?"

The woman stared at him bleakly. "Fortunately, I arrived in time to see that woman reporter. That is well for you. I was minded to use the whip."

She turned and walked towards the inner door, paused for a moment, and then stepped through it, and was gone.

Accidents begin, and human nature carries on. Before the fire, Virginia had passed the Futurian Science Laboratories a hundred times without ever noticing that it was there. Yet now she was aware of it.

Two days and a morning after the fire, she emerged from the same restaurant with her husband. She watched him stride off towards the university, then turned and went her own way. As she came to the Futurian sign, she paused with a sudden memory. She peered through the great plate glass window.

"Hm-m-m!" she said.

There was a new counter in place of the half-burnt one, and a new chair. In the chair sat Edgar Gray, reading a magazine.

She could see his blotched face, and she had a clear profile of his Adam's apple. An empty box lunch stood on the counter beside him.

It was a thoroughly normal scene, and she didn't give it a second thought. But that night at 8:10, when her husband was escorting her to the theater, she glanced out of the taxi, as it passed Futurian.

The enormous window glowed from the reflections of a spotlight behind the counter. Under the spot sat Edgar reading.

"He keeps long hours," said Virginia out loud.

"Did you speak?" asked Professor Mention.

"It's nothing, Norman."

A week later, coming home from a party at a quarter after eleven at night, their car passed Futurian. And there was Edgar under his light, reading.

"Well, of all things," exploded Virginia. "Whoever owns that joint sure has got hold of a sucker."

Her husband grinned at her. "Working on a newspaper has certainly enriched your vocabulary, sweet."

Virginia gave him briefly the sequence of her experience with Futurian. She watched his face crinkle, his fine eyes narrow with thought. But in the end he only shrugged:

"Maybe it's Edgar's turn to be on the night shift. Since the war and the absorption of returned men into the planetary services, there's been a tremendous shortage of ordinary help, as witness the fact that you are compelled by law to work; and we have to eat vitaminless food in restaurants because you can't work and cook too." He grimaced. "Restaurants, wagh!"

Virginia laughed; then soberly, "There may be a manpower shortage, but the people who are available are treated like tin gods."

"Uh, I suppose you're right. I'm afraid I can't help you then. As a lecturer on practical psychology, my city contacts are becoming less every day. Why not ask old Cridley in your office? He's supposed to be a good man."

Cridley, the science editor, stroked his beard. "Futurian Science Laboratories," he said. "No, I can't say that I've heard of them. Let me see."

He drew a commercial register across the desk towards him, opened it. "Hm-mm," he said. "Yes, here it is. . . . Research. . . . Doesn't tell you much, but"—he looked up—"they're legal."

He added with a sardonic smile, "I somehow had the impression you thought they weren't."

Virginia said: "There was a vague idea in the back of my mind that they might be worth a story for the magazine section."

In a way that was true—Old Cridley was reaching for the phone. "I'll ring up Dr. Blair, the only neurologist on my list. Perhaps he can give us some information."

The phone conversation was prolonged: Virginia had time to smoke a cigarette. At last the old man clicked down the receiver. He looked up.

"W-e-e-l-l-l," he said. "You've run into something."

"You mean the place is phony."

He grinned. "No, no, the other way around. It's big. It's a ten, twenty, thirty billion dollar concern."

"That little place!" said Virginia.

"It seems," said old Cridley, "there are duplicates of that little place right around the world. There's one on some main avenue of every city of two hundred thousand or more in the entire world. There's one at Canalis Majoris on Mars, and one each on the two principal islands of Venus."

"But what do they do?"

"Ostensibly, they do research work. But actually it's a high-pressure organization to get people to put up money for research. Some lame attempts have been made to

investigate the outfit, but so far every such attempt has died while still in the embryo stage.

"Dr. Dorial Cranston, the founder, used to be quite a man in his field. But about fifteen years ago, he went money mad, and developed this beautiful system of milking gold from soft-hearted dopes who want to help science. The key moochers are men and women whose personalities are plus and then some. They shine like jewels in a crowd. You know the type. You've got a long start in the direction of that kind of personality yourself."

Virginia let the compliment pass. "But have they ever made any worthwhile research?"

"Not that I know of."

Virginia frowned. "Funny we haven't heard more about them. I think I'll look into it further."

It began to rain shortly after five o'clock. Virginia Mention retreated deeper into the doorway of Sam's Haberdashery, and stared miserably up at the sullen skies.

The idea was just beginning to penetrate that she was in for a night. Oddly, she had no intention of giving up. Logic said that Edgar ought to be watched over the supper hour.

He was going to be watched.

At seven the rain petered out. Virginia oozed out of her doorway, and paced up and down glaring at the office across the street. A light had flicked on, the same shaded counter lamp she had previously observed. Under it sat Edgar Gray reading a magazine.

"The little coward!" Virginia Mention raged silently. "Hasn't he got guts enough to stand up for his rights? I know he was in there this morning."

The fury faded with the minutes, yielded to the passing of the hours. At ten minutes after ten, she dashed hurriedly into the restaurant, gulped a cup of coffee, and phoned her husband.

Professor Mention's chuckle on the phone, as she described her vigil, made her feel better. "Personally," he said when she had finished, "I'm going to bed in another hour. I'll see you in the morning."

"I've got to hurry," Virginia breathed. "I'm scared silly he'll leave while I'm in here."

But the light was still there when she got outside. And so was Edgar.

He was reading a magazine.

It was funny, but suddenly she began to picture him there in terms of years. Day after day after day, she thought, Edgar Gray coming to work in the morning and remaining until a tremendously late hour at night. And no one cared; no one even knew apparently. For surely self-consciousness such as Edgar carried around with him could not exist if he had a normal home life.

She began to feel sorry for Edgar as well as for herself. What a life he was leading, what an incredible inhuman life.

She watched him jump to his feet, and press down one of the "comptometer" keys.

Virginia Mention shook her head, bewildered. This business made less sense every second. Eleven o'clock came and passed. Eleven thirty. At eleven thirty-two, the light blinked out abruptly, and after a minute Edgar emerged from the front door.

It was a quarter after eight the next morning when Virginia Mention staggered up the single flight of stairs to her apartment.

"Don't," she murmured to her husband, "ask me any questions. I've been up all night. I'll tell you everything about a month from now when I wake up. Phone the office, will you, that I won't be in?"

She did muster the energy to undress, and get into her pajamas, and crawl into bed.

When she wakened, her wristwatch said 4:30—and a woman in a white evening dress was sitting in the chair beside her vanity.

The woman had, Virginia Mention saw after a blank moment, blue eyes and a very lovely face. That is, it would have been lovely if it hadn't been so hard, so cold. Her body was long and slim, like Virginia's own. In one of her finely shaped hands, she fingered a knife with a thin, cruelly long blade.

The woman broke the silence, softly:

"Now that you have started your investigation of us, you must also bear the consequences, the rewards of jealousy. We're all very glad you're a woman. Women weigh less."

She paused. She smiled a fleeting enigmatic smile, and watched alertly as Virginia slowly sat up in the bed. Virginia had time to think that she had seen this creature somewhere; and then the woman went on:

"Women also arouse more sympathy. . . . My dear, you've come into something you won't forget for"—she lingered over the phrase caressingly—"the rest of your life."

At last Virginia found voice: "How did you get in here?"

Except for the sense of recognition, that was actually as far as her mind had gotten. The woman's words, the enormous threat in them, would catch up to her only gradually. Her voice was shriller, as she repeated:

"How . . . into my apartment?"

The blond woman smiled, showing her teeth. "Through the wall, of course."

It sounded like very unveiled satire. It roused Virginia Mention as nothing else could. She drew a deep breath—and was herself.

Narrow-eyed, conscious suddenly of the eerie quality of this meeting, she stared at the other. Her gaze lighted on the devilish knife and, just like that, fear came.

She pictured Norman coming in, and finding her stabbed to death. She pictured being dead, while he was still alive. She pictured herself in a coffin.

She began to feel warm with terror.

Her gaze flashed up to the woman's face—and terror sagged.

"Why," she said aloud, wonderingly, "I know now who you are. You're the wife of the local electrical tycoon, Phil Patterson. I've seen your picture in the society pages."

Fear was fading fast now. She couldn't have explained the psychology, except that people you knew, and people of importance, didn't commit murder. Murderers were strangers, unhuman creatures who emerged briefly from a mass of meaningless faces, after the police had caught them, and, once executed, retreated into the depths of your memory, never again to be recognized.

Virginia found her voice again. "So," she said, "you're one of the Futurian Science Laboratories crowd."

The woman nodded brightly. "That's right. That's the crowd I belong to. And now—" She sat up a little straighter; her voice was as resonant as a bell—"I really musn't waste any more time in idle chatter."

Virginia said in a level voice: "What have you done to Edgar Gray? He's a thing, not a human being."

The woman seemed not to hear. She was hesitating. At last, cryptically: "I must be sure you know enough. Have you ever heard of Dorial Cranston?"

There must have been a look in Virginia's face, for the woman said: "Ah, I see you've got that far. Thank you very much. You could have been very dangerous."

She broke off. She stood up. She said in an oddly drab voice: "That's really all I need to know. It is silly to give information to people who are about to die."

She was at the bed before Virginia could grasp the deadly intent behind the words. The knife, which Virginia had almost forgotten, flashed up in the woman's hand, then down at Virginia's left breast.

There was a pain like fire, a tearing sensation at her flesh. She had time to see the knife hilt protruding from just above her heart.

Blackness came, blotting out the unbearable agony.

Professor Norman Mention was whistling happily under his breath as he entered the apartment. The hands of the hall clock were poised just over the seven. By the time he had deposited his hat, coat, and cane in the hall closet, and glanced into the empty living room and kitchen, the minute hand had moved a stately fashion to five after seven.

He noticed, while hanging up his coat, that Virginia's current coat and hat and things were all there.

Still whistling, but more softly now, he walked over to the door of her room, and knocked.

No sound came from inside. Rather hastily, he retreated to the living room, and took up the copy of the *Evening Herald* that he had bought on his way home.

He was a highly trained reader, with a capacity of just under twelve hundred words

a minute, but the effect of the enormous speed was partially canceled by the fact that he read everything but the society columns.

It was half past eight before he folded the paper.

He sat frowning. He thought irritably: If Virginia had been sleeping since that morning, then she ought to be roused. And besides, it was time she satisfied his curiosity as to the results of her vigil before the Futurian Science laboratories the night before.

He knocked at the bedroom door, and, when there was no answer, opened it, and went inside.

The room was empty.

Professor Mention was not nonplussed. He stared ruefully at the unmade bed, and then shook his head, and smiled. After twelve years of being married to Virginia, he was well aware of the intricate maneuverings of women-newspaper reporters.

It was not like Virginia to leave her room untidy, but it had happened at least twice before, and each time he had done what he did now: He made the bed, ran the carpet sweeper over the rug and mopped the floor.

When he was making the bed, he noticed a bloodstain on the sheet.

"Damn it," Professor Mention muttered irritably, "Virginia oughtn't to go out when her nose is bleeding, and without her coat, too."

He went finally back to the living room, and tuned in a comedy team, whose popular appeal he had for some weeks vainly tried to analyze.

The failure was repeated this night. He laughed hollowly once. When the ordeal was over, he clicked off the radio, and began to whistle softly under his breath.

After a while his watch said that it was eleven. Perhaps, if he phoned the *Herald* office—No, that wouldn't do. She was supposed to be sick.

He picked up a detective novel he had been intending to read for a month. At twelve o'clock he finished it, and looked at his watch.

He had felt the worry creeping up on him for some time. It tingled in the back of his mind all the while that he was reading the story. The ending, the act of closing the book, was like a cue.

Professor Mention stood up. He swore aloud. He told himself he was very angry with Virginia. She oughtn't to go off like that, and then not phone him.

He decided to go to bed. He woke up with a start. The dials of his watch showed eight o'clock, and the sun was peering through the window. Unnerved, he climbed from under the cosy quilts, and went into Virginia's room.

It was unchanged.

The important thing, Professor Mention told himself precisely, was to be logical. Suppose he did go to the police—after, of course, duly verifying that she was not at the office or at a few other places he could think of.

The police would ask questions: Description? Well, she was strikingly good-looking,

five feet six inches tall, a sort of a redhead, though not exactly. There was an odd glint in her hair that—

Mention stopped that thought with a conscious effort. This was no time for romantic touches. "Redhead," he said aloud, firmly, "and she was wearing—"

He paused grimly. At this point at least, scientific accuracy was possible.

Resolutely he headed for her clothes closet. For ten minutes he fumbled with increasing gloom among some four dozen dresses, striving to picture which one was missing. The amazing thing was the number of dresses that he couldn't remember ever having seen before.

At the end of ten minutes, he knew himself defeated. He turned back into the bedroom—just as the hazy figure of a man stepped through the wall of the room.

He stood there for a moment, like a motion picture image focused on a cloud. The insubstantial form of him began to thicken. It became a man in evening clothes, a man with arrogant, sardonic eyes, who bowed coolly, and said:

"Don't go to the police. Don't do anything foolish. Perform your normal duties, and make reasonable excuses for your wife's absence. After that, wait. Just wait."

He turned. His body changed, became transparent. He stepped into the wall. And was gone.

There seemed nothing else to do. There seemed nothing TO do. Yet during the war he had learned the habit of decision.

Mention hesitated. Then slowly he went into his room, and removed the Luger automatic from the back of the drawer where he had kept it for years. It was a war trophy; and because he had won *the* medal, it required no license.

He stood fingering it with a gathering skepticism. But finally, conscious of its symbolic importance to his morale, he put it into his coat pocket, and started out into the morning.

He was halfway to the university before it struck him that it was Saturday. Mention stopped short in the street, laughed harshly. To think that he had imagined he was taking it calmly.

He stood undecided, grim, thinking with a sudden, new dismay: A man who could walk through solid walls! What had Virginia run across?

His brain sagged before the implications. He felt strangely boneless, and dry inside, as if his body was all shriveled up by an intense inner heat. His fingers, when he raised them to his burning forehead, were moistless, almost abrasive.

He looked at them, startled. Then hurried into a corner drugstore.

"Give me an injection of blood plasma," he said. "I've just narrowly escaped being run over, and I feel dizzy."

It was only partly a lie. There was no question but that he was suffering from shock, and in no mild form either.

"That'll be one dollar," said the druggist a minute later.

Mention paid it gratefully, and strode out. His brain was working again, and his body had lost the drab sense of approaching unconsciousness. What he needed now above everything else was to appraise his situation.

He thought drably: The facts were: Futurian Science Laboratories—Edgar Gray—Dr. Dorial Cranston—a strange cold-faced man who walked through walls.

He stopped there. Once more he felt himself change color. He whispered huskily:

"It's impossible. I must have dreamed it. The human body is a structure evolved from a more primitive type. Therefore, unless—"

Higden's thesis! Only if man had once been innately capable of passing through substance, could outside energy help him do it now. Higden's thesis that present-day man was a degenerate from a higher form must be correct.

Mention laughed curtly. He lashed at himself. "Am I having an academic argument with myself when Virginia is—"

His mind faltered. He felt the strain coming back. He saw another drugstore sign ahead. He went in and bought his second and last plasma injection.

Afterwards, physically buoyed but mentally depressed, he seated himself in one of the booths. An hour later, the reality was still the same:

He was a badly frightened man. And since the fear was not for himself, there was nothing he could do about it but what the stranger had suggested:

Wait!

SUNDAY: At 11 A.M., he went downtown and peered through the plate glass window of the Futurian Science Laboratories. Edgar was there, a long skinny monstrosity, absorbed in a magazine:

After ten minutes, Edgar hadn't moved except to turn over pages. Mention went back to the apartment.

MONDAY: He had one period without a class. There were three other professors in the recreation room. Mention turned the subject to the Futurian Science Laboratories.

Troubridge, physics professor, jumped at the use of the name, then laughed with the others.

Cassidy, assistant professor of English, said: "It sounds straight out of Tommy Rocket, the new comic sensation."

The third man changed the subject.

TUESDAY: He had no free periods. During the noon hour he went into the library, and asked for books by and about Dr. Dorial Cranston.

There were two by the doctor, and one about him by a Dr. Thomas Torrance. The first published of Cranston's two volumes was entitled "Physical Affinity of the Human Race." Astonishingly, it was a tract on pacifism, a ringing condemnation of international slaughter, an hysterical document against war, in which the worthy doctor enlarged emotionally upon the theme that men were brothers under the skin. He



advocated the extension of the handshake as a symbol of friendship, urged the adoption of promiscuous kissing among men and women alike, and spoke highly of the Eskimo custom of rubbing noses.

"Alien peoples," he wrote, "are electrically charged against each other, and only sustained physical contact will resolve the difference in their potential. A white co-ed, for instance, who allows herself to be kissed by a Chinese student will find that the hundredth kiss is far from repulsive. In the interval the man has become for her a human being, in some fashion which she cannot analyze. The next step, marriage, comes into her thoughts; and what began as a desire for exotic thrills has, through contact, attained a more honorable status. We see these marriages taking place all around us, and, unless we have ourselves established similar contacts, we cannot begin to comprehend how they ever happened."

Basically, stripped of its pacifistic ranting, that was the book. The lunch hour was over when Mention finished his perusal. He took the other two out, resolved to read them that night at home.

The second Cranston book was a repetition, in even more violent and dogmatic language, of the first. The man was obviously a bug on his subject; and it required a real effort for Mention to read the second volume to the end.

He picked up the Torrance biography of Cranston, flipped it open at chapter one, and read:

*Dr. Dorial Cranston, pacifist, neurologist extraordinary, was born in Louisville, Kentucky, in—*

Mention closed the book wearily. He was willing to concede that physical contact would do wonders for human relations. But it was already clear that the reading of old books about Cranston had no connection with the present reality.

WEDNESDAY: He had no new thoughts.

THURSDAY: Professor Troubridge fell into step beside Mention, as the latter started home.

"Norman," he said, "about your reference the other day to Futurian Science Laboratories: If they've approached you, don't hesitate. They can do what they claim."

For a moment, the words sounded as if they had been created at random by a mechanical word machine. But there was meaning finally. Meaning so important that Mention fought doggedly to prevent himself from blathering questions that would reveal his ignorance. He gulped, paused disastrously, and then was saved, as Troubridge went on:

"Three years ago, my physician, Dr. Hoxwell, told me that my heart wouldn't last six months. I went to the Mayo Clinic. They confirmed the diagnosis. It was a month after that, when I was already despairing, that I was approached by the Futurian people, and informed that I could be furnished with a new heart for ten thousand

dollars. They *showed* me a heart in a glass case, beating. It was a living heart; Norman, and they said it made no difference what organ I needed at any time; they could supply it, provided I had the money."

Mention said: "I thought organic transplantations were impossible because—"

He stopped. Realization came that that wasn't really the thought in his mind. There was something else, a picture, a question that roared through his brain with the clamor of a tidal wave. As from a great distance, he heard Troubridge say:

"They can do it because they've discovered a new principle in organic electricity."

The thought that had come to Mention dominated the whole universe of his mind now. In a dead voice, he uttered the terrible words:

"Where do they get their *live* replacement organs?"

"Eh!" said Troubridge. His eyes widened. A stunned expression crept over his face as he whispered: "I never thought of that."

By the time Mention reached the empty apartment, he didn't want to think of it either.

There came purpose.

He paced the living room of the apartment that night in a fury at himself for having waited so long. And yet the problem was still: what should he do, what *could* he do that would be effective?

Go to the police?

He felt immensely reluctant. Because there was still a chance. They wouldn't have told him NOT to go to the authorities merely to keep him quiet for a week—if at the end of that time he went anyway.

He could mail a letter to his bank to put into his safety deposit box, which would be opened if something happened to him. . . . Yes, he would do that.

He wrote the letter, then sat at his desk striving to think. After a long period during which nothing would come, he began heavily to write down a list of possibilities, item by item:

Virginia accidentally runs across Futurian Labs. She disappears.

I am warned by a man who walks through walls. I discover that:

(1) Dr. Dorial Cranston, founder of Futurian, is a fanatic pacifist as well as a neurologist.

(2) That Futurian sells human organs on a mass scale to rich men. (This is probably their purely commercial enterprise, their source of income.)

(3) The ability to walk through walls is obviously a means of power, and they are not sharing that with anyone. Yet they seem unworried by the fact that I know about it.

(4) Cridley, science editor of the *Herald*, told Virginia that several attempts to

investigate Futurian were stifled in embryo stage, proof that they have influence in high places.

(5) There is absolutely no reason why they should treat Virginia any differently than they do the other—sources—of their live organs.

Mention wrote the last sentence grimly, then stared down at the list, dissatisfied. It seemed to offer no lead that he could follow with even the vaguest possibility that he would find Virginia.

After a moment, he wrote slowly:

If I went to the police, and they arrested Dr. Cranston and Edgar Gray, Cranston would walk out through the walls of the prison, and Edgar would—

Mention lifted his pen, and stared with a sudden heady surmise at what he had written. Edgar! If it was true that there were Futurian shops in all the large cities, then there were hundreds of Edgars all over the world acting as receptionists. But—Edgar! Virginia had disappeared after a night of investigating Edgar.

What had she discovered?

Excitement touched his mind, then flared through his body. He looked at the mantel clock. It showed one minute to ten. If he hurried, he could get downtown just about the time that Virginia had phoned the night she followed Edgar.

He might be trailed, of course, as she must have been.

Edgar was still there. Mention parked his car a little way along the street, but at a point from which he could see Edgar plainly, where he sat under his spotlight.

Edgar was reading a magazine. At 11:30, Edgar rose, put on his hat, switched out the light, and came out of the door. He locked the door behind him.

He did not look around him, but headed straight for the restaurant where Mention had often eaten with Virginia. Mention climbed out of the car, and walked over to the restaurant window.

Edgar was at the counter, wolfing a piece of pie and a cup of coffee. He put some money on the counter; and Mention had time only to turn his back, as Edgar emerged from the door.

Edgar hurried off down the street. After five minutes he turned into the dimly lighted foyer of an all-night theater. Mention debouched from his car again, bought his ticket a little breathlessly—and a minute after that watched Edgar sink into a seat well down in the front of the theater. He edged into the third row behind Edgar.

At three o'clock Edgar was still in the show, goggling bright-eyed at the screen. It was shortly after that that Mention fell asleep.

He awakened with a start. His watch said 6:45. Edgar was hunched down in his seat, his legs over the back of the seat ahead. But he wasn't sleeping.

At 7:40, he got up abruptly, and hurried out of the theater. Straight for the restaurant he headed, with Mention following a hundred feet behind. It took four minutes for

Edgar's meal to be served, three for him to eat it. At the counter the girl handed him two of their made-up box lunches; and then he was outside.

He paused in a drugstore to purchase four magazines.

At one minute to eight he unlocked the door of the Futurian Science Laboratories, and settled himself in the chair behind the counter. He picked up one of the magazines and began to read.

Apparently, his long day was about to repeat itself.

Now what?

Back in the apartment, Mention wakened himself with a cold shower, hurried through a breakfast of toast and coffee, and then set out for the university. His first class was not until twenty to ten; and so he had a reasonable amount of time to ponder his findings.

Actually, what had he discovered? Nothing except another facet of the neurological research of Dr. Cranston. The man was undoubtedly a genius. Perhaps he *had* passed over the books by and about Cranston too hastily.

There was nothing to do about that until night. Then he took down from the shelf, where he had put it unread, the biography of Dr. Dorial Cranston by Thomas Torrance, Ph.D.

As he opened the volume, he saw that there was a picture in the frontispiece, a photograph of a man standing on the terrace of a swanky house.

Mention jumped as he saw the picture, then stared and stared at the cold, sardonic face and powerful body. The caption underneath read:

The author, Dr. Thomas Torrance, at his palatial home in New Dellafield, Massachusetts.

There was no mistaking the identity. Torrance was the man who had stepped through a solid wall, and warned him not to call the authorities.

He couldn't think. The sleep he had missed the night before, the sheer nervous exhaustion of the past week, took their toll of his brain now, when he needed strength to examine the potentialities of his great discovery.

His last thought before he finally allowed the sleep to engulf him was: Whatever had happened to Virginia had happened during her sleep that day. Perhaps he too—

He woke up annoyed that he was safe, and then, slowly, he grew aware of a purpose. His watch said 11:15. He stood up and headed straight for the phone.

Considering that his call was from California, it went through swiftly. After fifteen minutes the phone rang.

"Your party, sir," said the operator.

Mention drew a deep breath; then tensely: "Hello!" he said.

There was the sound of the operator hanging up, a pause, and then a familiar voice said quietly:

"What's on your mind, professor?"

Mention gulped. The words were all wrong; and the confident implications of the quiet tone in which they were uttered, stunned him. Incredibly, he felt ridiculous, as he said:

"Torrance, unless my wife is returned at once, I shall take action."

There was a little silence, then a half chuckle:

"I'm curious," said the voice, "just what kind of action you have in mind."

The arrogance was almost palpable now. Mention was conscious of a distinct emptiness inside him. He fought off the feeling. He said thickly:

"First of all, I shall go to the newspapers."

"Nope, won't do!" said Torrance in an oddly judicial tone. "We've had every newspaper owner in the country in our organic wards. And just in case you have other ideas, that also goes for state governors, lieutenant governors, states attorneys, cabinet ministers and a few others."

"That must be a lie," said Mention. He felt suddenly colder, more sure of himself. "It's against the law of averages that every one of those men could have had something wrong with him."

Torrance's laughter peeled over the receiver.

"I'm afraid," he said, "we'd be waiting yet if we had depended on Nature." His voice tightened. "Our main base of operations, Mention, is on North America, so we couldn't take chances with men like that. We went after them, and they're now, I assure you, solidly in our clutches."

He ground on, without pause:

"I won't explain the how of that, professor. Just take my word for it. You could of course go to the local police. We never bother with small fry until they bother us. Then we neutralize them. I hope I have made everything clear. And now, if you don't mind, I shall—"

Rage came so abruptly to Mention that he had no time to fight it.

"Torrance," he shouted. "What have you done with my wife?"

The reply was cool: "My dear fellow, this will surprise you. But we haven't got your wife. Goodby."

There was a distinct click.

Doggedly, Mention put a call through to the small city in New Jersey that was given in Cranston's books as the residence of the author.

"Hello," he said, when the connection was finally made. "Is that you, Dr. Cranston?"

There was a chuckle over the receiver. "My, my," said the voice of Thomas Torrance, "but you are persistent."

Mention replaced the phone on its cradle without another word. Just how a call to

New Jersey could be switched to Massachusetts was not clear. But he accepted the fact of what he had heard.

He was turning blankly towards the living room—when Virginia, a hazy figure, stepped through the wall of the hallway.

She was wearing pajamas; and the insubstantial form of her—thickened—before his eyes. For a long moment she stood there staring at him with anguished eyes.

She began to cry. Tears streamed down her cheeks. Her face grew wet. She ran towards him. Her arms clutched him with the strength of panic-stricken terror.

“Oh, darling, darling,” she sobbed. “They’ve killed me. *They’ve killed me!*”

She moaned and cried in those minutes before full awakening. The horror of what she had last seen—the knife in her heart—was strong in her mind, like acid burning.

She wakened with a start.

She was lying in a large, curious room. It took a long moment to grasp that she was stretched out on a table; and a full minute must have passed before she grasped dazedly that the knife was no longer protruding from just below her breast.

With a shock like fire, it struck her that there was no pain, and that she was alive.

*Alive!* She sat up shakily. And instantly sagged back at the sharp splinter of pain that jabbed at her left breast.

The pain subsided. But the fact that it had come at all left her weak with fear. She lay, not daring to move.

She grew more aware of her surroundings.

The room she was in was about a hundred feet square. It was almost completely filled with little glass cases. The cases lined the walls, and stood on the floors, with only narrow aisles between them; and each case was divided into compartments about two feet square.

By turning her head, Virginia could see plainly the inside of the compartments against the wall to her right and left.

Each one contained what looked like a human heart, suspended from a small machine in the ceiling of the compartment.

She stared at them blankly; and she was on the point of turning away when the realization struck with a terrible force: The hearts were beating.

Strongly, steadily, they expanded and contracted. There was no pause in that quiet movement. The sustained quality of it calmed her, quieted her overstrained nerves. After five minutes, consciousness came that she ought to examine her personal situation again.

Cautiously, almost without fear this time, she lifted her head. For the first time, now, she saw what she had missed before:

A square of cloth had been cut out of her silk pajamas. There was a clean, white bandage carefully taped where the knife had penetrated.

Curiously, it was the pure whiteness of the bandage that braced her. It suggested

skillful medical attention. It suggested that she was being looked after. The death that had so violently threatened her was frustrated.

She began to think of herself as being in the private surgery of some neighborhood doctor. She must have been rushed to him for emergency attention.

She was alive, but it seemed odd that no one was attending her. Surely, she wasn't going to be left here on this table.

Just like that, anger came. And because fear was still a wavering, dark curtain in the back of her mind, the anger was unnaturally violent and unreasonable.

Anger faded before the passing of the minutes. If she had been in a bed, she would have lain quietly, and awaited events. But it was impossible to remain on this flat, hard table.

She had allowed her head to sink back to the surface; now she raised it again. Carefully, putting most of her weight on her right arm, she raised herself to a sitting position.

Nothing happened. No pain, not a twinge of the anguish that had struck at her a little while before. Evidently, the important thing was not to move too rapidly.

She sat for a minute on the edge of the table, her legs dangling, looking around from her new vantage point at the fantastic total of human hearts all around her.

She began to be afraid. It was unreal, that row on row of quietly beating hearts, each in its compartment, each functioning with a steady *lifeness*.

Most disturbing of all was the complete absence of human beings. Except for its unnatural furniture, the room seemed utterly empty; it unnerved her.

Trembling, Virginia lowered herself to the floor. She stood very still, letting the strength flow back into her body.

It was pleasantly surprising to realize that there was strength.

She walked along an aisle, glancing only fleetingly at the double line of hearts. The number of them made her uneasy again. There was a door at the far end of the room. One of the hinges, and the lock, were badly smashed. It opened easily, however, onto a stairway that led upwards to another door.

She climbed with a sense of urgency, a conviction that she must get away from those phalanxes of soundlessly beating hearts.

The second door was metal. But its lock too had been roughly handled, though there was a key in the shattered keyhole.

She opened the door, eager now; and stepped out onto a jungle pathway. A brilliant sun was shining down on a hilltop clearing a few feet away. She climbed towards it, reached it, and stood briefly paralyzed by what she saw.

Virginia Mention paused in her recount of what had happened. Her husband had laid her down on the bed; and from that prostrate position she looked up at him. He was staring down at her with a grim tenderness.

"But you're not dead. You're here with me, alive and safe."

She said hopelessly: "You don't understand, sweetheart. You . . . don't . . . understand."

Professor Mention replied quietly: "Go on, my dear. What did you see that startled you?"

She was on an island, an atoll green with jungle, and surrounded by a blue ocean that extended on every side as far as the eye could see.

The sun, though still high in the heavens, was well past midday. The heat was blasting; it made her feel ill.

Dizzy, she turned to look at the door through which she had come. She expected to see a building, but there wasn't one.

Undergrowth spread in a thick tangle all around where the building should have been. Even the open door was half hidden by lichens that intertwined cunningly all over the exposed metal face of the door.

There was a strong odor of dying vegetation.

To Virginia, standing there under that lonely brilliant sky, came an unreasoning fear that the door would close, and shut her forever out in this empty world.

She started down towards the door. She had taken only three steps when a thin, screaming sound touched her eardrums. The sound came from the remote sky to her right. It was faint and faraway at first, but grew louder and louder.

After a moment of worried puzzlement, she recognized with relief the origin of the sound: A jet-propelled plane.

It came into sight, a black point in the blue heavens. It took on size. It was a twenty-jet machine about two hundred feet long, wingless except for the upward-bending wing struts supporting its vertical jet fuselages.

It flashed past, unaware of her frantically waving arm, a passenger express plane bound from beyond the eastern horizon towards the setting sun.

She watched it till it disappeared into the sun-fire, hope dying gradually. The return of silence startled her. Shocked, and enormously depressed, she remembered again her fear of the door closing upon her.

She entered it hastily, closing it behind her, but not locking it. Before, she hadn't noticed how cool and comfortable the "weather" was in the great room, nor had she been aware of the indirect lighting. Now, her attention fastened eagerly on the evidences of mechanization. There must, she thought anxiously, be a basement, perhaps other underground floors. The electric power must have a source.

For a timeless period she searched for a second door, but succeeded only in tiring herself. She lay down on a couch which she discovered at one end of the room; and she was resting there when her darting gaze brought her awareness for the first time that each transparent compartment of the showcases had a little placard attached to it.

A name was printed on the first one she examined; it read:



Morrison, John Laurance  
257. Carrigut Street,  
New York City.

The second one also had a name, and nothing else. Virginia walked slowly along the line of compartments. She was at the N's before it struck her that the compartments were ticketed in alphabetical order.

Her mind made a fantastic jump; and she rushed over to the P's. She found the name she wanted instantly; and, having discovered it, stared at it blankly:

Patterson, Mrs. Philip  
(Cecilia Dorothy)  
Suite 2, Mayfair Apts.,  
Crest City, California.

The blankness ended abruptly. With a gasp, she hurried over to the Grays. But Edgar wasn't there. The only person with anything like his name was:

Grey, Percival Winfield,  
3 Huntington Court,  
West Tuttenham,  
London, England.

Briefly calm, Virginia stood watched Percival's heart as it beat on quietly. She was thinking:

But of course! Edgar was not one of them. He was a slave, held somehow in a thrall that included an utter inability to sleep.

After a little there seemed nothing to think about that. But another thought came, a thought so tremendous that her mind rejected it three times as she ran back towards the M section. But each time it came back stronger and more terrible.

She found the compartment she sought. The heart in it was slightly different from the others. It was beating steadily, but it had a small, neat bandage over a portion of the flesh wall facing her. The placard on the glass was equally unmistakable:

Mention, Mrs. Norman (Virginia)

Virginia Mention stared at the thing with avid eyes, like a bird fascinated by a monstrous reptile. A sound came from behind her, but she heard it only vaguely. It came again, and this time it snatched all her attention.

It was the sound of a man clearing his throat. A slow, quiet voice said:

"Dr. Dorial Cranston at your service, madam."

Virginia had no memory of turning. Nor did she so much as think of the fact that she was in pajamas in front of a strange man.

The man standing before her was old; and he wasn't at all what she had expected. Just what she *had* expected she couldn't have said, but not a gentle face. Not a sad-looking, old, old man with tired blue eyes, who bowed gracefully, and spoke again, in the same oddly matter-of-fact way:

"The problem of keeping organs alive outside of the body was solved in various

countries before, during and after the second great war. But the best work was done in Russia. I like particularly the various mechanical addenda, such as the autojector, which they brought to a high degree of perfection. Of course, in the preservation of the organs, I merely used the discoveries of the Russians and of the scientists of other nations. I'm a nerve man myself. I—"

It was at that point that Virginia found her voice. She had been standing staring glassily, but with her courage coming back instant by instant, her eyes brightening before the mildness, the obvious harmlessness of this old man. Yet, in spite of terrible relief, there was a tenseness in her, a need to *know*, unlike anything she had ever experienced in her life.

In a piercing voice, she cried: "But if this is my heart"—she jerked her arm with automatic stiffness towards the living flesh behind the glass—"What's inside me now? *What?*"

The harmless old man looked suddenly cool and unfriendly. He said in a frigid voice:

"You were stabbed to death, weren't you? Yet now you're here talking to me. Don't worry about what's inside you. I took out a lot more than just your heart. Don't bother searching for more operation cuts. I don't work that way. Come over here."

Without waiting to see if she would follow, he turned and walked with the sedate bent-knees movement of age towards the "back" of the room. He touched something embedded in a narrow stretch of bare wall. A door swung noiselessly open, revealing a set of stairs leading downwards.

The room below was as large as the one above; and it too was completely filled with glass cases. The contents of the compartments were various: hearts, lungs, liverlike organs; there were even a pancreas and a few pairs of kidneys.

All of the organs seemed alive. The lungs were definitely so. They expanded and contracted gently but with unmistakable strength and sureness.

The old man paused before a compartment containing a pair of lungs. He motioned wordlessly towards the placard attached to it. Virginia braced herself, as she stepped forward. The bracing helped. It was her own name.

Slowly she faced him. Her mind was clearer, fear of fading force. The reality was that she was alive. Beside that fact, all this had no meaning. She laughed harshly.

"Please stop playing games. What do you want, all of you?"

She had thought herself calm, but there was enough hysteria in her voice to shock her. That woman, she thought, that terrible woman had scared her. She found her voice again:

"Dr. Cranston," she said earnestly, "you look honest. What is all this? What has happened?"

The old man shrugged: "I'm afraid I don't dare tell you anything but that these are your lungs, and the heart upstairs is your heart. An organ removed in its entirety does

not involve serious damage to the nervous system of the body except at one or two key points; and those are easy to fix."

He looked at her. "I suppose you've been outside. I was prevented from coming back here as soon as I intended, so you've had time. I'm sorry about that. I've never been able to fix the locks on those doors. They were smashed by a man whom I saved as I have you and who—" He paused. "Never mind."

"About the organs," he said. "After they killed you, I could do nothing but take them out. Your brain"—he turned to a nearby case—"is here. Mrs. Patterson was very thorough. After she had stabbed you to death, she used a long needle to pierce your brain through your ear, and she also pricked at your lungs. Her intention was to make certain that you would not be brought back to life in any normal fashion. She, and the others, have an idea that if I am forced to make replicas of themselves that I automatically create a recruit for them. So far"—he smiled grimly—"they have proved right."

He frowned, then reached briskly into his pocket, and produced a necklace with an intricate pendant suspended from it. He held it out.

"Here is your radio device. Whenever you want power, touch this little lever, and say into the pendant: 'Press button 243.' That's your number. Two four three. Don't forget it. I'll call it for you this time, so that you can get home."

He fastened the pendant around her neck, touched a tiny lever, and said:

"Press button 243."

There was a pause; and then—she began to burn inside. It was so sharp, such a flame of agony that she cried out. Her breath came in quick gasps. She twisted. She started to run. But there was nowhere to run. The pain went with her, like a moving directed fire.

The conviction came that she was really dead; and that all that had gone before was a dream, a flashing kaleidoscope of unreality born out of the hideous pain of dying. Through a blur, Dr. Cranston's voice came to her:

"... Very painful the first few times. But remember that your brain controls the power. When you *think* yourself insubstantial, that is how you will be. The moment you let go of the thought, you return automatically to a state of solidity. The power to do that wears off after a few hours, and requires recharging. I shall come with you as far as the outer walls of your apartment."

Virginia was in the apartment, and for long minutes babbling away to her husband, before realization finally came that she was not dead. That actually her situation was worse than that.

She must have been unconscious for a week, to have memory of only a few hours of waking.

By noon they were no further than that. She couldn't stop talking. Twice, Mention

persuaded her into bed, but each time when he went into the kitchen to mix her a drug, she was out from under the quilts and following him.

After the second time, the knowledge penetrated that he had a mentally sick woman on his hands. Above everything else, she needed rest, time to calm down.

He managed finally to give her the protein sleep drug, cadarin. But it was not until he lay down beside her that her voice grew drowsy, and she fell into a restless sleep.

He had time to wonder what he ought to do, now that she was back. He was still utterly divided two hours later, when she awakened, tense and terrified.

"That woman," she began thickly. "She put a needle through my ear into my brain, and she pricked my lungs. She—"

"Many people have pierced eardrums," Mention suggested. "The important thing is she didn't disfigure you."

The phrase had proved briefly magical a half dozen times before. It proved so now. The funny, mad look went out of her eyes. She lay quiet for a long time. So long that Professor Mention got worried.

He glanced at her cautiously. Her eyes were open, but staring, and narrowed with thought. For a minute, unobtrusively, he watched her. Then, slowly, he said:

"Apparently, what we have here is a gang, remorseless, murderous, infinitely evil. It was founded as the result of a neurological discovery of Dr. Dorial Cranston, but he himself is not one of the gang. *Its* political and material power seems indestructible. It's too big; like a gigantic octopus it sprawls over the earth. But Cranston goes around trying within the pitiful limits of an old man's strength to undo the damage done by the monsters he has created."

"Norman!"

The tone of her voice indicated to Mention that she had not heard a word he had said.

He spoke softly: "Yes, dear?"

"Norman, Dr. Cranston won't live much longer. Do you realize that?"

He knew there must be a deeper meaning behind her words than just the fact. After a moment he thought he had it. He said:

"You mean, then there will be no check on those devils."

Once again, she seemed oblivious to his words. Her tone was more urgent, intent:

"Norman, if he's the only one who knows where that island is, then what will happen to my heart, and the hearts and organs of those others, after he dies. Surely, they won't go on beating, *living*, without attention."

It was odd, but for a moment the words meant nothing to Mention, but that there was one more fear to soothe out of her tortured mind. He actually formed the calming words on his lips; and then he stopped himself.

He lay very still, mentally transfixed. "That's it!" he thought. "That's their fear. They must be desperate. They'll stop at nothing."

His mind leaped out over the possibilities. By evening he had still to come to a

decision. It was amazingly hard to know what to do, what could be done, against such a vast organization.

The days strode by while he stood moveless in his mental valley of indecision. Each day Mention told himself:

"Surely today something will happen. They'll do something, show in some way why they did all this to us."

Virginia returned to work. A whole month passed. It was a week after that that Mention walked into the apartment one afternoon—just as Virginia stepped through the wall and materialized in the hallway.

She was radiant: She glowed. There were times in the past when he had seen her alive and excited. But never like this. Her body was vibrant; it seemed to cast off an aura inhuman in its power. Almost literally, her face glowed.

Mention stared at her; and slowly her richly tinted cheeks lost their unnatural color. It was their day for eating in. Without a word Virginia turned, and hurried into the kitchen.

Two hours later, when the radiance of her had faded to normal intensity, Mention looked up from the newspaper, and said quietly:

"Virginia."

She jumped; then:

"Yes?"

"How often have you done that?"

She was visibly agitated. It struck Mention with a shock that, in some curious way, she had hoped he wouldn't refer to what had happened. Her lips twitched. Her eyes wouldn't meet his. She said finally in a low voice:

"That was the first time."

She was not, he thought; used to lying. So that the lie was as transparent as a child's. He felt sick; then in automatic defense of her, told himself that she had never recovered from her experience.

He said gently: "Why did you do it?"

She seemed relieved that she had accepted her statement. She began eagerly:

"I wanted to see how it worked, partly because being able to do it might prove a defense against them; and I couldn't remember what it had been like the first time. I was too excited then, and besides it hurt terribly."

"And this time?" Steadily.

"It didn't hurt. I felt alive, warm, wonderful. After a while I wished myself insubstantial, and it was so; then I stepped through the wall, simultaneously wishing myself in the alley behind the *Herald* office—and there I was. I felt no sensation. The movement through space was instantaneous."

Her eyes were wide as they gazed into his. Briefly, all fear was gone out of them. She breathed:

"Norman, it's miraculous, godlike. It's—"

"Why not try," Mention said, "to wish yourself on the island? I'd like to have a talk with Dr. Cranston."

Virginia shook her head vigorously. "It's impossible. I don't mean I tried to go there. But I made several attempts to go to places I'd never been; and nothing happened. You have to know the direction; and you have to be able to visualize the place. You have to *know* where it is you're going."

Mention nodded slowly. "I see," he said.

He let the subject drop, but he thought wearily: "This is what they're waiting for: To let the reality of her situation sink into her. To allow her time to grasp that she is in the same box as they are."

But why? What did they want of her? They had started off by killing her because she had made some minor discoveries about them. Then, when Cranston interfered with the finality of their murder, they had warned Virginia's husband not to go to the police. They wanted something; and now that they had gotten Virginia to experimenting with the power they had given her, it shouldn't take long before they showed their hand.

He glanced up at Virginia. She was sitting, gazing into space, her eyes half closed. Mention felt a sudden, enormous unease.

It was ten o'clock that night when the doorbell rang jarringly. Mention glanced at Virginia, and then stood up.

"We won't be getting friendly visitors at this hour," he said. "Better call Edgar, and tell him to press button 243. No use taking chances."

He waited until she had spoken into the wrist radio, then slipped the Luger into his pocket, and went to the door. It was a messenger boy with a letter. The letter read:

Wednesday the 23rd.

Will Professor and Mrs. Mention come Friday evening at seven to a dinner party in the main dining room at the Grand York Hotel? Give your name to the maitre d'hôtel.

*Cecilia Patterson.*

There was one thought that dominated all others in Mention's mind, as he read the letter: Action was beginning. If ever he intended to do something not of *their* choosing, the time had come.

He spent the night, thinking, straining, for a clue. He was in the middle of a lecture the next morning when comprehension came as easily and quietly as life to a newborn puppy.

He stood very still, staring at the class, but seeing only a blur of faces.

"Why," he thought in a great wonder, "it's been there before our eyes ever since Virginia came back. What blind fools we've been not to realize."

Not until he was on his way home did he realize what *he* must do about it.

\* \* \*

He left his bedroom window open.

He waited until the illuminated dials of his watch pointed at two. He dressed silently, shoes and all, then waited until a streetcar moaned past along a nearby street. He let the outside sound clothe any sounds he might make in moving to the window.

The drop from the second story window jarred his bones, but the softness of the earth in the flower garden below saved him from injury.

There was a twenty-four hour U-Drive-It garage three blocks away. Half an hour after leaving his room, Mention slipped into the theater seat beside Edgar Gray.

"All right, Edgar," he said quietly. "You're wanted. Come along."

"Glug goo?" said Edgar in a whispered fear.

"Come along!" hissed Mention threateningly. And flashed his Luger.

Edgar came. Mention drove out into the country and parked finally in an open stretch of farmer's roadway, off the main highway.

He didn't switch off the motor, and he left the gear in medium, and kept his foot on the clutch—just in case. But he knew he was safe. Even they couldn't be everywhere.

The idea of using Edgar for his purpose seemed cleverer every minute that passed. There were two problems in connection with him: one was to get him to talk in an understandable fashion; the other was to see to it that Edgar told no one of this meeting and its results.

It was the first problem that proved difficult. But after half an hour it began to solve itself. Mention found that he was beginning to understand Edgar's glopplings. Behind all his incoherent glugs and glibbers, Edgar spoke English.

Mention expected little from the questioning phase of the interview; and that was exactly what he got.

The mind of Edgar was a misty region, but the darkness lacked depth. If a human brain could be compared to a book, then Edgar's was a magazine of the more lurid sort. But he was almost completely lacking in personal experiences.

An orphan from babyhood, he had spent the first fifteen years of his life within the walls and behind the fences of an institution. At fifteen, they had picked him up, and put him behind the enormous glass window of the Futurian Scientific Laboratories, and he had been there ever since.

"But," asked Mention, puzzled. "You have been treated, so that you don't need sleep. When was that done?"

"When they took out my heart," Edgar mumbled, "and my lungs and my brain and other things, they said I wouldn't need sleep anymore. They do that to people they want to control."

"Yet," Mention thought precisely, "Virginia sleeps normally. There are variations and variations to this business."

Edgar finished simply: "I was scared at first but"—his voice tightened with

hate—"the woman whipped me a couple of times, and then I didn't dare not do as they wanted."

It was the suppressed fury in Edgar's voice whenever he talked of "the woman" that solved the second problem.

"Listen, Edgar," Mention said earnestly. "I'm on your side against the woman. When I get through with her, she'll never whip you again; and you'll have a chance to do all the things you've ever wanted to do."

That last was important. A youth who read as much escapist literature as Edgar must be absolutely maddened with the desire to go places and do things.

"Listen," said Mention, "here's what I want you to do. Tomorrow night at twelve o'clock, a jet plane leaves here for Los Angeles. At 1:30 A.M. a rocket ship leaves Los Angeles. I want you to be on that jet and make the connection with that rocket."

"Me on a rocket ship," gurgled Edgar ecstatically.

"You'll be back in time for work; so don't worry about that. Here's some money, and a notebook containing exact instructions as to what you are to do. I've even left spaces for the answers I want you to write down."

He handed over the notebook and the money, and watched Edgar slip the former into his breast pocket, the latter into a small billfold. Edgar's fingers shook with excitement.

Mention trembled too, but it was not excitement. He felt cold and hot by turns as he thought of Edgar having that notebook all day long. If *they* ever got hold of it—

Mention shivered, and drew his gun. He made his voice hard and cold.

"Edgar, take one last look at this. If you fail me in any way; if you don't do this job, and do it right, I'll use this gun on you. Understand!"

In the dim light of the dashboard, Edgar's eyes glowed with understanding.

"Glug goo!" gulped Edgar.

Mention taught at the university as usual the next day. It was during the noon hour that he put through his phone call.

"Tell her," he curtly informed the male servant who answered, "that it's Professor Mention."

A minute later, a woman's voice glowed on the phone. Mention said:

"Mrs. Patterson, I wish to change the hour of our dinner from seven to midnight. I believe the Grand York holds late dances every night, so there will be no difficulty about getting the service. The reason?"

Mention laughed curtly. "Do I have to give one? All I'll say is, my wife and I won't come unless you agree. You do! Very well."

He felt grimly pleased, as he hung up. It was risky; it would make them suspicious. But Edgar's movements would now be as free from watchful eyes as the precautions of one man could make them. There were only three dangers now:



First, that it didn't matter what he did. Second, that he was not really fooling them at all. Third—

Nitwit Edgar himself.

They were led to a table where four men, one of them Torrance, and five women, one of them blond Mrs. Patterson, were already seated. The men stood up. The women ceased their animated talking, and looked them over curiously.

Their faces shone with unmistakable extra life. All nine, men and women both, almost literally glittered with power. The table was the center of attraction. People kept glancing over from nearby tables, in fascinated awareness.

Mention felt drab and lifeless beside them, as he sank into one of the two empty chairs, but it was a physical feeling only. Mentally, he had never been more alive, more determined.

Convince Virginia, he thought, that she had nothing in common with these creatures. Gain information. And give Edgar time to get safely started on his long, swift trip. Those were his purposes.

The anxious hope came that Edgar had not been drained of strength to provide the glittering life that these people now paraded.

It was worrying. Picturing the possibilities made eating his fruit cocktail an effort. In the end he could not contain himself. It was Torrance who answered his carefully worded question:

"No, the Edgars in our power centers are not 'batteries.' They're transmitters. The word 'negative' is the key. Every time somebody passes the great plate window behind which Edgar sits, there is a tiny flow from them to him, but he can't use it. Where Edgar's internal organs—and mine and your wife's—used to be, are now electronic impulsors largely made from tantalum. One difference is that Edgar is negative. Your wife and the others and myself are positive. Is that clear?"

It sounded like Yogi mouthings. But apparently he was going to be given information. He flashed the next question. Torrance answered promptly:

"There are two hundred forty-three of us including your wife. Of course," he went on, "we're only the executive central. We own immense property, and have tens of thousands of employees, including the people we have had watching you and your wife."

He laughed. But Mention was not amused. The personal words had come so unexpectedly that he swallowed hard. He forced his tensed nerves to relax. Only what he had done last night mattered, he told himself unsteadily. And because of his precautions no one, absolutely no one, had followed him. He was sure of that.

It was clear, though, that the man was playing with him. It startled him. It brought awareness of how tremendous was the power these people must believe themselves to possess.

He felt shocked into studying for the first time the faces around the table.

He had thought the four men were handsome, and the five women regular streamlined beauties. In a way that first impression was not wrong. Even now, examined intently, all nine, men and women alike, showed themselves to be well formed physically, a quality enhanced by the fact that they were marvelously well dressed and marvelously well groomed.

At that point the beauty ended like a road snapped off by the gap in a bombed-out bridge.

Those finely formed faces were chiseled masks of hardness. Merciless, inhuman hardness. Here was an innate cruelty that only Death personified could equal. Their eyes were slate-blue and slate-gray and slate-brown. Their lips were uniformly thin and compressed.

That was the underlayer. Superimposed, dominating, crowning each countenance was arrogance, supreme and terrible arrogance.

There was no question at all. They *did* believe in their power.

Mention ate his soup course, fighting for calm. He stole a glance at Virginia, but she was staring down at her plate. She had, he saw, taken very few spoonfuls:

He thought darkly, in surprise: Nobody was saying anything. The only words they had spoken so far had been in answer to his questions:

He saw that Torrance was smiling enigmatically.

Stronger grew Mention's conviction that he was being toyed with. And yet, up to now, he had lost nothing, had actually gained information.

That course couldn't be dangerous: He asked his next question. As before, it was Torrance who answered; and with the same promptness, the same apparent honesty:

"You're right, there wasn't much about Cranston's discovery in his books, mainly because he hadn't discovered very much when he wrote them. And my biography of him was written to kid him along at a time when we were building up our organization."

He paused. "Don't forget, in thinking of Cranston and his work, that he's a nut. For instance, it was not until he discovered that his idea of spreading good will by universal physical contacts was not going to be given a trial that he conceived the idea that artificially magnified nervous energy might do what he required—without contact.

"Never did a theory of a man fall on a smoother, rounder surface. That ball is rolling yet.

"Within the short space of one year, Dr. Cranston had found that an interflow of energy took place every time two or more human beings came near each other. It was a genuine transference of life force, but it needed magnification before it would have the same effect as physical contact. Accordingly, he engaged a first-rate electronic engineer—myself—to develop a tube and a circuit which not only magnified the organic energy, as he called it, but which could tune each individual's wave length at will.

"An improved version of that original circuit is now inside your wife keeping her—connected—to the heart, lungs, and brain in Dr. Cranston's secret laboratory."

He gazed earnestly at Mention. "Cranston has never explained to me why it is necessary for the organs to be outside the body, except to say that there must be a flow over distance. Yet at the same time there is no distance. The blood, the nervous energy, every breath of air we take is pumped, flows and is purified by the organs in those glass cases of his. If anything happens to those organs, we'll die."

Mention hadn't intended to speak. But this was what he had wanted to know. All his doubts had writhed around the one point of those human organs in Dr. Cranston's island laboratory.

And they were connected. They were. Nut, the old fanatic might be. But he had these Machiavellians in the palms of his two hands.

But why—the wonder was a savage force—why hadn't Cranston used his control, and destroyed the whole lustful crew?

That was the question that burst from Mention's lips. And Torrance, his eyes like gray-diamond drills, answered from between clenched teeth:

"Because he can't bring himself to kill. Because he's a bug on pacifism as no one ever has been. Think! His whole discovery, this tremendous discovery, is based upon his emotional desire to find a practical method of spreading good will.

"That emotionalism is our deadly danger. It makes it possible for him to fool himself. It's true he can't bring himself to kill us. But he's seventy-eight years old. Not old as ages go nowadays, yet well over the average life expectancy.

"He could, literally, die any day. He stubbornly refuses to recognize that possibility. He won't permit our doctors to examine him. In some queer way, he's convinced himself that if he dies, and we don't find our organs in time, then he won't really be responsible for our deaths.

"How did he get them in the first place? Man, who'd ever suspect that an old fool like that would be so cunning. He performed all the operations except his own. And somehow he must have become suspicious of us."

Torrance was utterly intent now, his gray gaze so concentrated that Mention had the impression of two dully blazing lights shining at his face.

"Mention, we must locate that laboratory. We must gain control of our vital organs.

"That is where your wife comes in."

Torrance paused.

There was no question but that he had come to his point.

"You see, professor," he went on softly, "every time we discover that someone suitable to our purpose is investigating us, we wait until we think they know enough to take the shock of revival. It is amazing how little knowledge is required, and yet how important it is; dozens of people whom we simply picked up on the street went insane on us.

"Anyway, we kill the investigator at the right moment, then transport the dead body to Dr. Cranston's home.

"Here again, care is necessary. The old man tires quickly these days. And when he is tired his emotional mind convinces itself easily that there is nothing he can do.

"So we found it was useless to bring him too many bodies.

"Under normal circumstances, however, the poor old fool can't stand to see people dead when he knows he can do something for them. He is particularly partial to"—smilingly, Torrance bowed at Virginia—"to beautiful women. And, even though he is aware of our purpose in bringing the corpses to him, he has reached a state of mind where he doesn't care. He feels hopeless, defeated by our enormous organization.

"Accordingly, over a period of time, we have built up a picture of the surroundings of his hiding place. We know that it is on an island, somewhere in a tropical zone. Your wife, we hope, will be able to tell us some little point more. Since her own life is at stake, she will, I am sure, be *glad* to tell us all she can."

Torrance stopped. He looked at Virginia, then at Mention with a strange imperturbability.

"Is everything clear now?" he finished.

"Yes," said Mention.

He felt a relentless rage. It was not the host of murders that did it, though the probable number of them did blurring things to his mind. It was not even Virginia. Thought of her predicament only made him feel cold and sick and afraid. It was the old man, the use being made of an old man and his idealism.

The ruination of an old man's wonderful crazy dream shook the very life within him. Mention felt abruptly fortified to the depths of his soul. And, just like that, he knew with an implacable determination exactly what he must do to these people, if ever the opportunity came.

Funny how long it had taken him to realize that, quite by chance, Virginia possessed all the clues to the location of the island.

They couldn't know yet the extent of her knowledge.

They mustn't know.

Mention said in his steadiest voice: "My wife woke up in Cranston's laboratory and Cranston was there. She had no time to look around, because he brought her straight home. And that, if you don't mind, is where she and I will start for now."

He pushed his chair away from the table, then hesitated, glancing at Virginia.

There was a brief silence; and then one of the blondes, not Mrs. Patterson, laughed harshly. "I notice, Professor Mention, that your wife is NOT making any move to follow you. Is it possible she *INTENDS* to remember having seen something?"

It was a possibility that had already occurred to Mention.

It was up to her.

Slowly, Mention gathered his forces. He looked at Virginia, and saw that her face was sheet-white. Her lips trembled, as her glance met his—and then she looked away.

Mention said urgently: "Virginia!"

Once more, she looked at him. There were tears in her eyes.

"Virginia, you've heard what these people have to say. And it isn't what you know or don't that's at stake at all. It's, are you going to become one of them, or are you not.

"Don't make your decision now.

"There must be things we can do. Surely, Dr. Cranston can be reached, if we persevere. I'm certain, if we could talk to him, that he'd finally make up his mind to kill these creatures. He's been isolated. He must be made to see that his life's work can yet be rescued from these human rats, these mad killers, these—"

He paused. He whirled on Torrance. "How many," he rasped, "how many human beings do you kill every year for their internal organs?"

"About five thousand," said Torrance without hesitation. "Mostly orphans, poor people who move around a lot, and families without relatives."

"Uh!" blinked Mention.

He hadn't expected an answer. He had flung the question to point up a grim aspect of these people's activities. Now, he felt torn from his train of thought.

"Five thousand!" he echoed.

The total was bigger than he had ever thought. It shocked him. He had believed himself hardened to anything that might come out in this deadly interview. And he wasn't.

He felt nausea. With a titanic effort, he caught hold of himself. Realization came that there was nothing he could say that would add any emphasis to the sum itself.

He did speak, however. He said wanly: "The defense rests."

He looked at Virginia—and she smiled at him through tears. It was a dreary smile. But a smile!

"Oh, you poor fool," she said. "You don't have to argue with me. You don't have to prove anything to me. There's evil here, beyond description. Evil of that curious advanced kind, which is only amused by the word and the realization. Look at them!"

She waved one hand, futilely. Mention had already looked. The nine faces were twisted in nine variations of sardonic amusement. Virginia's voice burned on:

"It's become like the evil of the universe, beyond the power of individuals to resist, with one exception. Only Dr. Frankenstein can destroy the monster he has created.

"The rest of us can but try to save our loved ones from the deadly elements. Oh, Norman, don't you see—"

"I see," said Mention harshly, "that you're thinking of giving in."

"Norman," she said whitely, "they've been too frank. They've told us so much that it's obvious they don't care what we know. Don't you see what that means?"

"You're thinking of yourself when you say that," Mention said.

"Am I?" She looked at Torrance. "Am I?"

Torrance said: "Your wife is smarter tonight than you are, Mention. You see, she is safe. Cranston will somehow see to it that no harm befalls the few of us he thinks worth saving."

He turned towards Virginia. "If you start talking before two minutes have passed, you and your husband can go home. You will never be bothered by us. And if we gain control of the organs, we guarantee that no harm shall befall yours. Naturally, we prefer that everybody with power should join us."

He looked down at his watch. "We do not make promises lightly, having no need for lies. It is now seventeen minutes to one. You have two minutes."

Virginia parted her lips as if to speak, and then she caught Mention's gaze. And closed them again.

She sat staring at him like a hypnotized bird.

"Don't you dare," Mention almost hissed. "In the war, we discovered that there's no compromising with such things as these. Their word isn't worth the uttering. If you have any information, we'll use it to destroy them."

Even now, he mustn't let them guess that they did have the information.

Torrance said drably: "The two minutes is up."

He whirled on Virginia. "You fool!" he said coldly. "You've let him condemn himself to death. At this moment," he went on icily, "you may consider that your husband has one year to live. A minute from now, it will be fifty-one weeks, and so on. If at the end of fifty-two minutes you still haven't started talking, we shall kill him within the next few days."

"In any event he's a dead man. You can save him for a year. That's final. *Missus* Mention, start talking."

Mention climbed to his feet. "Virginia," he said roughly, "let's go."

Torrance reached up, and caught his arm. "Sit down, you idiot."

Mention smashed him in the face.

He felt incredulous the moment he had done it, astounded at his foolishness. But by then, the uproar had begun.

The waiters who carried Mention outside were not gentle. Nor were they slow. Mention succeeded in shouting once: "Virginia, don't you dare!" And then he struck the sidewalk with a hard plop.

After ten minutes, Virginia had still not come out.

The minutes dragged. Twice Mention tried to go in. But the doormen were on the watch for him.

"Not tonight, Mac," one of them said. "You've had one too many."

It was Torrance who brought Virginia out. The man looked triumphant.

"The West Indies!" he exulted. "What luck that she went out just as one of the rare twenty-jet planes passed, and that she noticed it was mid-afternoon there, but nearly noon when she got back to California. The continental time differences work in beautifully. We've got the old scoundrel at last."

He looked at Mention coolly. "It's too bad you're a returned man. We're really indifferent as to whether you live or die, but we've discovered that men who were officers in the Army, Navy or Air Force do not co-operate with us even to the extent of just minding their own business."

He finished: "Your wife talked after twenty-five minutes, and she didn't start to tell the truth till we took her upstairs to a lie detector. You'll be feeling a knife at the end of the allotted time—after which we'll force your wife to join us. Good-by."

He walked back into the hotel, with Mention's Luger pointing at him all the way. At last, gloomily, Mention took his hand out of the gun pocket.

"I don't dare," he said. "Killing one wouldn't do any good. Besides, I can't afford to spend the night in jail."

Beside him, Virginia said dully: "I'm sorry, Norman."

"I'm sorry, too," Mention replied gently, "for what I said to you before."

She spoke again, but this time he didn't hear. There was a clock above the ornate entrance of the hotel. Its hands showed twenty minutes to two. Mention stared at them, and calculated.

The Los Angeles-Miami rocket was only ten minutes out from its glitteringly showy launching run. It would be thirty-five minutes yet before Edgar arrived in Miami and started his inquiries.

By then, Torrance and the others, having flashed the nerve "power" way to Florida, would be on their way to the island by the fastest jet plane available.

He made sure they weren't followed, by taking three different taxis to the airport.

They were on the 3:30 rocket from Los Angeles to Miami. There was one chance, Mention realized, as he sank deeper into the cushions from the enormous acceleration. One chance.

Virginia had been to the island. Torrance and those eight veterans of the organization who had attended the dinner hadn't.

When he told Virginia his plan, she stared at him somberly. She said bleakly, "Suppose Edgar started home on the quarter to three, Los Angeles time, rocket."

"I don't believe it," Mention said flatly. "For years Edgar has palpitated for adventure. He'll stay till a quarter to five L.A. time; as I advised him to. But he won't go too afield. He's not that bold, not yet."

They found Edgar in one corner of the waiting room, reading a magazine.

He handed over the notebook. There were four twenty-jet planes a day in the West Indies, he gabbled, all on the same route, every six hours in both directions.

He led the way to an enormous wall map of the West Indies.

The route was marked in a white line in bold relief; and there was a tiny island shown at the probable time point.

In the city directory, Mention located the Miami Futurian Science Laboratories. A

taxi took Virginia, Edgar, and himself there. A brick cracked the glass, then sent it shattering to the sidewalk.

"Get in there, Edgar!" Mention urged. "Press button 243. And then beat it back to the airport."

Two minutes later, as the early morning sun burst through a fleecy bank of low clouds, Mention drew a radiantly powered Virginia into a doorway.

"Darling!" he said. "This is it!"

He went on doggedly: "It must work. They transported you to Cranston's home when you were just a dead body. And Cranston took you to the island in the same way. That radio impulsor inside you must build a force field all around you when you're 'charged.' If they could move you, then you can take me along now."

He saw the expression on her face. He said earnestly:

"Don't forget, you've been there. And you know the way at last." He pointed eastward. "The island is over there. Visualize the hill you stood on that day when you came out of Dr. Cranston's underground laboratory. You can. I know you can."

He felt her stiffen with decision. "Hold me close!" she whispered. He felt her vibrant body press against his, responsively.

Somewhere nearby, an Irishman began to curse in annoyance, something about a window having been broken on his beat, b'gorra.

The officer's voice was cut off curiously. There was a sudden tingling inside Mention, thrillingly sharp. And sustained.

The sensation ended. He was standing in a room lined with glass cases, staring at an old man, who confronted them with an ax in one hand and a revolver in the other.

"I have a little system," Dr. Cranston said in a queer, tired voice. "I phone Torrance up. If I can't get in touch with him, I come here, just in case he's up to something."

He lowered the gun wearily. "Just when I'd half convinced myself that I would kill the first person who came in here, in barge two innocent people."

Mention did not hesitate. This was the man who could fool himself about things like responsibility for death.

He was going to have the chance.

Mention stepped forward and took the gun from the old man's unresisting hand.

"I'd like you," he said, "to hand me the ax of your own free will."

Dr. Cranston shrugged wearily. "There's nothing else I can do."

He handed over the ax. He looked suddenly cheerful. "I suppose there's nothing I can say that will prevent you from doing what you have in mind?"

"You can," said Mention grimly, "indicate those cases which you think can be left intact. And don't indicate too many."

When Mention finally put the ax aside, twenty-three compartments remained unshattered. ■



# THE CHOSEN PEOPLE

Robert Randall

*In the summer of 1955 Randall Garrett and I began our collaboration as science-fiction writers. I was just a kid, and he was all of 28, an old pro. We turned out a lot of stuff together, and swiftly turned our attention to the project of selling a novel to John W. Campbell, Jr., the reigning monarch of the science-fiction magazines.*

*We concocted an idea of a Scottish secret agent who undermines the culture of an alien world for its own good, and took it down to discuss with John. He turned it upside down, threw the Scot out of the story, told us to make the aliens the protagonists, and asked for, not a novel, but a series of novelets. We went home and wrote, in a kind of wild hot fervor, "The Chosen People." When John bought it, which he did almost instantly to my exceeding joy, he suggested that "By Randall Garrett and Robert Silverberg" was too cumbersome. "Why not write as Robert Randall?" he asked.*

*And so we did. And sold him three novelets about our furry aliens, and then he asked for a novel. Which we also did, in the summer of 1956. Bliss it was indeed in that dawn to be alive, and have a collaborator, and be selling stories galore to John Campbell!*

—Robert Silverberg

THE HARD, SAVAGE MANDIBLES of the hugl slashed at Kiv peGanz Brajjyd and missed. Kiv jerked his hand out of the beast's way just in time. Again the hugl lashed out—and this time, it connected. The powerful jaws came together, and Kiv's blood spurted down over the monster's head.

"Damn!" Kiv snapped, irritated.

The animal's little teeth had taken a nasty bite out of the ball of Kiv's thumb. Before it could snap again, Kiv dropped the animal into the little wooden box he usually carried with him for just this purpose and clicked the lid shut.

"Bite you?" Narla asked.

"Yes. Nasty little beast," Kiv said without rancor. "I should have learned how to handle them by now. If they're all as hungry as this one, I can see why they're having so much trouble with them on the northern farms."

He turned the box over. The bottom, which was made of glass, permitted him to see the hugl. Clashing its jaws, the inch-long creature scrambled madly around the inside of the hard, plastic-impregnated box.

Narla iKiv geFulda Sesom, who had only recently been privileged to add the "iKiv" to her name, looked with interest at the little box in her husband's hand.

"What's so different about it, Kiv?" she asked.

"The armor," he told her. "It's black. I've never seen a black one before. All of the specimens I have at the School are brown." He wrapped his pocket kerchief around the nipped thumb and tied it.

"Take this, will you?" Kiv handed the box up to her, and she stared at it curiously. He dug his high-heeled riding boot into the stirrup and pulled himself up to the saddle.

"Jones will be interested in that specimen," Kiv said, as they guided their deests out of the roadside thicket where they had paused for midmeal. "Put it in the saddlebag," he told her. "And be sure to remind me to show it to Jones as soon as we're back at the School."

She nodded and reached back obediently to stow the box in the leather pouch. Kiv felt a glow of pure pleasure as he watched the smooth play of her muscles under the fine golden down that covered her skin. Since she was clad, as he was, in the traditional Nidorian dress—sleeveless vest and thigh-length shorts—he had no thought about the beauty of her clothing; it was her own beauty he saw. She might not be the most beautiful girl on Nidor, but she approached Kiv's ideal so closely as to be almost indistinguishable from it.

He tipped his head back and squinted at the eternally clouded sky. The Great Light was almost at His brightest, spreading His effulgence magnificently over the green countryside. It was a little after midday.

The Earthman, Jones, said that the Great Light was a "blue-white star." Just what a star was, Kiv didn't know; they were supposed to be above the cloud layer. Some of the things Jones said didn't make much sense, Kiv thought.

"We've got about an hour's ride ahead of us," he said. "We should be getting along. I can't wait to see the School again; this vacation seemed to last forever."

"You've been terribly anxious to get back to work, haven't you, Kiv? I felt it all the time you were home. You seemed so anxious to leave that I almost apologized to your parents."

"The School is very important to me, Narla; you know that. It's a great honor to be chosen to study with the Earthmen."

"Of course, silly. I know."

He snapped the reins, and his deest broke into a smooth trot. Narla's mount kept pace easily with him.

"How long will it be before you write your book?" she asked. "I mean, do you think you'll be able to get the rest of your information during the next term? It seems to me that you've covered all there is to cover on the hugl already."

Kiv nodded. "I think I'm nearly done. It's going to be a rather scholarly thing, I'm afraid; no one is too interested in the life cycle of the hugl. If anyone were, he would have done the job years ago."

"I know. But even if your work isn't terribly consequential, it's still good training for you," Narla said. "As the Scripture says, 'The observation of life permits one to attain an inner peace.'"

Kiv frowned. "I'm not sure the Scripture means that. I don't think it means lower forms of life."

"Don't be silly, Kiv. It says 'life,' doesn't it? And if a hugl isn't alive, I don't know what it is."

Kiv was silent for a while; resting easily in the saddle while the swift pace of the deest carried him over the matted turf of the road.

"It may be so," he said finally. "Certainly Jones was all in favor of my studying the hugl for my book. And I don't think Jones would permit anything that violated the Word of the Scripture. Hoy! What's that?"

Narla, startled by his sudden change of tone, glanced quickly at him. Kiv was pointing down the road with one golden arm outstretched.

Someone was standing in the middle of the road, just where it forked. As their deests drew nearer, they saw that it was a man in the familiar blue tunic of a priest. He held up his hand as Kiv and his wife approached. The two riders pulled their animals to a halt and bowed their heads reverently.

"The peace of your Ancestors be with you always," said the priest ritually.

"And may the Great Light illumine your mind as He does the world, Grandfather," Kiv and Narla chanted together.

"How may we serve you, Grandfather?" Kiv asked.

"Did you intend to cross the Bridge of Klid?" the priest inquired.

Kiv nodded. He took careful notice of the other man. The priest was not much older than Kiv himself, but his bearing had all the dignity that was proper to his office.

"We were going to use the bridge, yes," Kiv confirmed.

The Grandfather shook his head. "I'm afraid you'll have to use the Bridge of Gon and go through the city, my son. The Bridge of Klid is being repaired."

Kiv barely managed to conceal a frown. Another delay! And, of course, the proper thing for him to do would be to offer his services in the repair work. He began to think he would never get back to the School.

"If you would do so," the priest said, "it would be appreciated if you could go to the nearest communicator and tell the City Fathers that we need more men to help repair the bridge. Give them my name: Dom peBril Sesom."

"I'll be glad to. What happened, Grandfather?"

"A section of the roadbed near the center has collapsed. We want to get the job done before the evening traffic begins."

"I see," said Kiv. "Very well, Grandfather. My wife and I will go on to the city and get hold of a communicator. Then I'll come back and help you build. My wife can go on to the School."

"The School?" The Grandfather looked politely astonished. "Are you, then, students at the Bel-rogas School?"

"We are, Grandfather."

"Then I cannot permit you to work on the bridge," he said. "Your studies are of greater importance. Any man can work on a bridge; only a few can assimilate the Scriptures and the Law—and even fewer are worthy of studying at Bel-rogas. Go and give my message to the City Fathers and then go on to the School."

"Very well, Grandfather," Kiv agreed.

The priest raised his hand in benediction. "Go, with the blessings of the Great Light, and Those Who have passed on to His realm."

Kiv and Narla turned their deests and took the southern branch of the road toward the great city of Gelusar, a long ribbon of a road curling through the gray-green farmlands.

"Nuisance," Narla said.

"What is?" Kiv asked pleasantly.

"This business of treating us as if we were likely to melt in the first rainfall. Did you see the way he looked at you when you said we were from the School? 'Your studies are of greater importance,' " she mimicked. "I cannot permit you to work on the bridge.' And I'll wager that's what you wanted him to say, too. You didn't want to work on that bridge, but you had to offer for the sake of courtesy. You just want to get back to Jones and the School."

"Narla!" He speared her with an angry glance. "When a Grandfather tells you something—"

"I know," she said, crestfallen. "I'm sorry."

They rode on in silence for a while. The road to the Bridge of Gon was a narrow, winding one, and Kiv's deest required considerable guiding at each turn. A stupid animal, Kiv reflected, as for what seemed the twentieth time in the last ten minutes he put pressure on the reins to turn the deest.

"Narla?" he said after a while. "Narla, that's the second time I've heard you question a Grandfather's instructions since we left my parents. And I don't like it—not at all."

"I'm sorry, I told you. Why can't you leave it at that?"

"But the tone of your voice when you mimicked him," Kiv protested. "Don't you know what respect means, Narla?"

"All I wanted to know was why we're so sacred, that's all," she said impatiently. "As soon as he found out we were from the School, we were suddenly too important to help repair the bridge. *Why?*"

"Because we've been chosen, Narla. Jones and the other Earthmen have come from the sky—from the stars, Jones says, whatever *they* are—from the Great Light Himself, for all we know. They're here to teach, and we must learn. Only a few are chosen. And the Law, Narla—that's what's important. Grandfather told you: anyone can fix a bridge. We're special."

"I'm sorry," she said a third time. "I'm only a woman. I don't understand these things."

*Be patient, Kiv thought. Patience and understanding, that's what a woman needs.*

After a long spell of hard riding, they eased up on their tired deests to rest them for the final lap of the journey.

Narla had said nothing all this time. Finally she asked: "Is Jones *really* from the sky? I mean, is it true that the Earthmen come from the Great Light?"

*She keeps asking questions like a small child who's too impatient to sit still,* Kiv thought. *It's been a long trip, she's tired.*

"I don't know," he said, keeping his voice quiet and matter-of-fact. "I don't see how they could come from Nidor, and the Grandfathers tell us that the Earthmen do not lie. The Grandfathers have accepted the Earthmen."

"And, there, we accept them," Narla completed.

"Of course," said Kiv.

And then the first scattered outskirts of the City of Gelusar came into sight.

They rode into Holy Gelusar—founded by the Great Light Himself! The vast, sprawling city was the center of all Nidorian culture. For two thousand and more years, it had stood almost unchanged, spreading out radially from its center, the Grand Temple, where the mighty Council of Sixteen Elders ruled the world of Nidor according to the Scripture and the Law.

Kiv and Narla guided their deests through a crowded thoroughfare that led toward

the heart of the city, looking for a public communicator. They finally found one near a shabby little side street that shot off toward the river. Kiv dismounted and went in.

There was a chubby little man behind the counter who took Kiv's request.

"This is a local call, then, not long distance." The little man was talking to himself more than to Kiv. "That will be three weights and four."

Kiv paid the attendant, walked over to the booth, and closed the door. Then he picked up the microphone and flipped the switch.

"Communications central," said a voice from the speaker.

"This is Kiv peGanz Brajjyd. I want to give a message to the Uncle of Public Works."

"One moment." Kiv heard a series of clicks over the speaker, and then a new voice spoke.

"Office of Public Works. What is it, please?"

"I have a message for the Uncle from Grandfather Dom peBril Sesom at the Bridge of Lid. He asked me to tell you that he needs another squad of men if he's going to get the bridge repaired for the evening traffic."

"And your name, sir?" queried the speaker.

Kiv identified himself, was thanked, and cut the connection.

Outside the communications office, he found Narla talking to an elderly man, obviously a farmer, judging by his dress.

"And I tell you, something has to be done!" the farmer was saying. "My sons and their families are fighting desperately now, but if we run short of Edris powder, there won't be a crop this year."

Narla said: "It sounds bad. And you say there are other farmers having the same sort of trouble?"

"Plenty of them," said the farmer. "The Great Light alone knows how many million of those hugl are chewing up the countryside out in my sector."

"Your pardon, Aged One," said Kiv, even though the farmer was not really old enough to deserve the flattering term. "What's this about the hugl?"

The man turned. "They're eating my crops! They're swarming again. You see, the hugl travel in vast swarms, eating and stripping everything in their path. And that goes for animals, too. Everything!"

"I realize that," said Kiv patiently, "but I hardly see that it's anything to worry about. This happens periodically, doesn't it?"

"Never like this," said the middle-aged man. "It seems to get worse all the time." Kiv noticed for the first time that the man looked tired and travelworn. The fine golden down that covered his skin was heavy with road dust. Kiv realized suddenly that he and Narla probably looked about the same.

"I've come to talk to one of the Elder Grandfathers," the man said. "One of my own clan, with whom I schooled as a boy. We need help out there." He took a deep

breath. "May you have many children to honor you." Then he turned and headed into the communicator office.

"And may your children and their children honor you forever," Kiv called after him.

He remounted his deest, turned the animal's head gently, and trotted with Narla down the thoroughfare toward the Grand Temple.

"He seemed quite worried," said Narla.

Kiv grinned. "They all do. If you'd had as much contact with farmers as I have, you'd understand. Every so often, the hugl march, and when they do, the farmers worry. Edris powder is expensive, but it's the only thing that will control the hugl. Fortunately, it *does* control them. It's a nerve poison, and it kills within a few minutes."

Narla smiled back at him. "The way he talked, you'd think that the hugl were going to eat up everything organic in the whole world."

"Remember, darling, to a farmer, his farm is the whole world."

"It's almost as if the hugl wanted to destroy us," Narla said, her voice changing suddenly.

Kiv looked at her. "What do you mean?"

"According to the Scripture: 'To destroy a thing, one must cut at the root, and not at the branch.' And certainly, the farmer is the root of our economy."

Kiv laughed aloud. "I see what you mean." He smiled. "It just proves that all living things obey the Law. But I'm sure the hugl don't do it consciously."

They rode on through the city, watching the peddlers and vendors excitedly hawking their wares. They passed by the Central Railway Terminal, where the little steam engines chuffed and puffed their way across the ancient overhead rails.

"We could have been to the School by now," Kiv complained. "Having to detour through the city like this is an awful waste of time."

"What would you have done?" Narla asked, a smile crinkling the skin around her eyes. "Swim the river where the Klid Bridge was out?"

Kiv chuckled. "It might have been cooler at that," Narla went on. "I'm going to need a bath badly by the time we get to the School. It's so much dustier here in the city." She said nothing more for several minutes, but when the Grand Temple came into view, she said softly, "Should we go in, Kiv?"

Kiv thought of the interior of the Temple—the vast rows of kneeling stands, the brilliant white glare of the altar, where the beams of the Great Light were focused through the huge lens in the ceiling, and the restful silence of the flickering incense candles.

But he shook his head. "No," he said. "We should have been at the School by now." Then he caught the little spark of petulance that flickered for a moment in Narla's eyes, and added, "We'll come back on the next Holy Day. I promise."

She nodded in silent agreement.

"That's our road," Kiv said. "Over there." The Bel-rogas School of Divine Law was situated five miles outside the city of Gelusar, up a long, twisting turf road. They trotted out to where the road began, and started up the hill.

Jones was a tired-looking man with faded blue eyes and a short, stiff brown beard that provided a never-ending source of conversation for the beardless Nidōrians.

"Glad to see you back," he said as Narla and Kiv entered the Central Room of the School's main building, after having stabled their deests outside. He was sitting comfortably on a bench in one corner of the big room, leafing through a ponderous leather-bound volume.

"Have a nice visit?" Jones asked amiably. "How were the folks?"

"My parents were in good health," Kiv said. "As were Narla's."

"Good to hear it," Jones said. He closed his book and replaced it on a nearby shelf. "Sorry vacation's over?"

"Not at all," said Kiv. "I didn't realize how much the School meant to me until the vacation time came. All year long I waited impatiently for classes to end so I could go back home."

"But as soon as he got home he started counting the days before School started again," Narla said. "He just couldn't wait."

"Impatient, eh?" Jones said, frowning as if considering something.

"Yes," Kiv confessed. "Impatient."

"It's been awful, Jones," said Narla. "You'd think I was a deest, the way he's been ordering me around. We couldn't even stop off at the Temple in Gelusar, he was in such a hurry to get back."

"That's not true!" protested Kiv. "I did try to help repair the bridge, didn't I? And they wouldn't let me!"

"What bridge?"

"The Bridge of Klid. Roadbed collapsed. That's why we took the back road."

"I figured something like that must have happened. I've never seen two more bedraggled-looking people than you two. Why don't you head up to your room and get some of that dust out of your fur?"

"Good idea," said Kiv. He looked enviously at Jones' smooth skin. "You're lucky," he said. "You have all your fur under your chin."

"A mere matter of Providence," Jones said. "For so the Great Light decreed."

"And so shall it be," Narla completed.

"Come on," Kiv said. "Let's wash up."

They started to move toward the great staircase that led up to the students' rooms. Kiv felt a warm sense of being home again when he saw the thick banister of glossy black wood.

"I suppose we're in the same room as last semester?"

"There've been no changes in room assignment," Jones said.



"I was afraid of that," Kiv said glumly. He stared up at the winding staircase. "That means another year of struggling up seven flights of stairs." He drew in a resolute breath. "Oh, well. So shall it be, the Scripture says. Let's go." Kiv took Narla by one hand, hoisted his saddlebag with the other, and they started up the stairs.

When Kiv came down, half an hour later, Jones was sitting exactly where he had been before.

"You look a lot cleaner now," Jones said.

Kiv smiled broadly. "Yes. It's amazing what a quick shower can do. But Narla's still up there scrubbing herself; her skin's glistening by now, and she still maintains she's covered with dust."

"It's been a pretty dry month. The roads are dusty."

"Don't we know it!" Kiv said. He started to sit down, then suddenly clapped his hands and dashed up the stairs. He returned a moment later, bearing the little box that had been in the saddlebag.

"I noticed this specimen on the road, when we stopped for midmeal," Kiv said. "And forgot all about it till now, like a stupid deest." He handed the box to Jones.

The Earthman turned the box over and scrutinized the little animal within. The hugl was still frantically battering the side of the box in an attempt to escape; but it had made no impression on the hard plastic.

"You notice that it's got *black* armor," Kiv pointed out.

"Oh, yes, I see that," Jones said. "I'm pretty well aware of what these things should look like, you know." He drew the box close to his eye and stared at the hugl.

"Beg pardon," Kiv said. He started to make a ritualistic bow of forgiveness, but Jones checked him with a quick gesture.

"All right, Kiv. I'm not offended." He gave the box a quick flip and the unfortunate little prisoner went over on his back. Jones studied the creature's underside for a moment, before the hugl managed to right itself.

"What do you make of it, Jones? Why is it black? All the others are brown, you know."

"Yes, I do know," Jones said, a trifle impatiently. But before Kiv had a chance even to begin apologizing again, Jones had uncoiled himself from the bench and was walking briskly across the Central Room.

"Come with me," he said.

Kiv followed, trying to keep up with the pace set by the long-legged Earthman. "Where are we going?"

"You *have* become impatient, Kiv. Always bursting out with questions."

Kiv smiled. Not long before, he had been criticizing Narla for the same thing. Apparently, he shared her fault, since he had managed to give offense to Jones three times within just a few minutes. Had Jones been an Eldér, Kiv reflected, I'd be still

finishing my first ritual apology, with numbers two and three to go. It's a good thing Jones is different.

"Here we are," Jones said. He fumbled at his waist until he managed to detach his door-opener from the belt of his shorts. He inserted it and the door clicked open.

They were in Kiv's laboratory.

"To forestall your question," said Jones, "yes, I *have* been taking care of your pets while you were gone, as requested."

"I never doubted it," Kiv said.

"I know," Jones smiled. "Pardon me when I tease you. You're just so *salemn* some times."

I'll never get used to the way he talks, Kiv thought. As if I were his brother, almost. And he's *older* than I am, by the Light! Perhaps the Earthmen will never understand that they are due the greatest respect.

Jones drew out the box containing Kiv's hugl.

"While you were gone, I started a new nest. Come here and look at it, will you?"

Kiv walked over to the cabinet near the window and peered in. It was swarming with hugl, fiercely tearing what looked like the haunch of a deest to ribbons.

And every one of them was a dark, glossy black.

Kiv looked up, startled.

"They're just like mine," he said. "Black!"

"Exactly," said Jones. "Your specimen is of a type not exactly uncommon in these parts. As a matter of fact, I collected all of these on the farm of one Korvin peDrang Yorgen, not very far from here. His farm was completely overrun with them about three days ago. It should take these black hugl about ten days more to reach your father's farm in . . . where is it . . . Kandor?"

Kiv stared at Jones's bland, unexpressive face. Suddenly, he remembered the weary old farmer Narla had encountered outside the communications office, and how he had protested so bitterly that the onslaughts of the hugl seemed to get worse every year.

"These hugl are all over the district?"

"All over," Jones said. "They go from farm to farm. Eating. They're the hungriest creatures I've ever seen. Take a look at Korvin peDrang's farm later in the day. Right out in front you'll see a very fine deest skeleton. They picked it clean of flesh in less time than I can tell about it."

Kiv squinted into the cabinet again, watching the furious milling about of the little animals. They were marching round and round their enclosure, as if mere motion would eventually free them.

"I'll say they must be hungry." He held out his bandaged thumb for Jones's inspection. "This one I brought back took a nice chunk out of me while I was collecting him."

Jones nodded. "Oh, they'll eat anything, all right. Ask some of our farmers."

"It's funny," Kiv said. "Here I am, an expert on hugl, and the first time the little beasts do something significant I have to be miles away! Some specialist I am; my own animals develop a new species and start eating deests, and I don't find out about it till days have passed."

He walked over and stared gloomily into the big tank where his hugl larvae lived. The little teardrop-shaped animals—"water wiggles," the farmers called them—were paddling peacefully up and down in the brackish pond water Kiv had so carefully transported to his laboratory from the nearby lake where he had collected them.

"Will these be black or brown?" he asked Jones.

"How should I know?" Jones replied. "Ask them."

Kiv smiled, concealing his disturbed feelings at Jones's flippancy. "I haven't learned their language," he said. "Or they haven't learned mine."

He looked back over his shoulder at Jones, who was staring out the window, watching the stream of radiance from the Great Light slowly die from the clouded skies. It was approaching nightfall. "I guess the poor farmers are working all day and all night to get their fields sprayed with Edris powder," Kiv said.

"They are," said Jones. "They've used so much that the supply is starting to run low. You can almost smell the Edris drifting on the wind, they've used so much."

"That's good. Hugl make very interesting beasts to study, but when they threaten the crops, I don't feel so affectionate toward them. And it's a lucky thing the Edris powder controls them so well."

"Very lucky," said Jones. He turned to face Kiv, and there was a curious twinkle in his eyes. "But there's one other thing I haven't told you yet. The Edris powder isn't controlling these black-hugl at all. Not at all."

Picture a multilegged little animal about half as long as your thumb. Now multiply it by a factor of between one and three million. Picture this vast horde of vicious, eternally hungry little monsters moving slowly but inexorably over the farmland of Nidor's one great continent.

Every lake and every pond could become a focal-point of the infection, from which the predators would spread, consuming everything in their path.

That was the picture that sprang into Kiv's mind. If what Jones said was true, if Edris powder could no longer control the hugl, then . . . then—

Kiv's mind simply couldn't grasp the immensity of the disaster. So he rejected it. He shook his head, partly in negation, partly to clear it.

"But that doesn't seem right," he said. "Edris powder will kill hugl. It's *always* killed them. For thousands of years. Why shouldn't it kill them now? What difference does their color make?"

The last glow of the Great Light streamed through the window and outlined Jones's head. His face was coolly expressionless. "That's what you ought to find out, isn't it?"

"But . . . but, Jones—how do you know Edris powder won't kill them?"

"The same way you would have found out if you'd been here when the first ones appeared." The Earthman stopped, his oddly alien eyes looking at Kiv's own.

Kiv blinked and met the Earthman's glance, trying to penetrate the peculiar logic of Jones's thought processes.

"If I'd caught one, I'd have tried to dissect it, I suppose. Naturally, I'd have killed it first. But I'd have used the gas generator. I don't understand."

Jones smiled. "That's because I withheld a minor bit of information. The gas generator overheated several weeks ago and cracked."

Kiv smiled and nodded. "So you used Edris instead. And it didn't work?"

The Earthman frowned. "I would not say it didn't work altogether. The thing finally died, but it took a rather long time. Four days."

"Four days?" Kiv's voice held a touch of awe. The long shadows began to gather in the little laboratory room, and he reached for the illuminator cord. "Four days?" He paused, holding the cord, letting the implications of Jones's statement sink in.

There was a diffident knock on the door, and Narla stepped inside. "I thought I'd find you here," she said. She looked around. "What are you two so somber about? Look." She held up a small printed booklet. "According to the Term Bulletin, I'm eligible to take Grandfather Syg's course—Application of Canon Law. Didn't you say you were going to take it, Kiv?"

"I wouldn't miss it for anything," Kiv said, glad to get his mind off the peculiarities of the black hugl for a moment.

"Grandfather Syg is a brilliant man," Jones said in his soft voice. "I believe McKay is working with him on teaching technique. Then, abruptly, he excused himself and left the lab."

Kiv turned to look again at the peacefully swimming hugl larvae. "I don't think I'll ever understand these Earthmen," he said.

"Nor will I," Narla agreed. "But you'll have to admit that the School has done some wonderful things for Nidor."

"Yes," said Kiv absently.

"Their new teaching techniques enable us to learn faster, and remember more. We can understand the Law and the Scriptures much better than any of our Ancestors did."

Kiv hardly heard her. He continued to stare at the larva tank. Then the meaning of her words reached him, and he saw that she was implying criticism of the Ancestors. And that, to him, was not far from sacrilege.

"Narla!" he said sharply.

"I'm sorry," she said quickly. "I didn't mean to say anything disrespectful. I guess I'll never understand."

And then he had to console her.

\* \* \*

Before another day had passed, all the students of the Bel-rogas School had returned. The spacious green parks that surrounded the cluster of buildings were soon filled with young men and women; and a soft hum of conversation carried through the air.

The Bel-rogas School was comfortably secluded. When the Earthmen had founded the School, they had been emphatic in insisting that it be well removed from the Holy City of Gelusar.

"We would not want to build new buildings in so revered a place," the Earthman McKay had said. The Earthmen knew the Law and practiced it.

They had come to Nidor more than a generation earlier—come down from the sky in shining ships. And they had known the Law. They had been accepted by the Elders.

Their first step in getting their school functioning had been to set up rigid entrance examinations, both physical and mental, in order to pick the best students. They had insisted that it would be useless—a waste of time—to attempt to train people in the Law who did not have the mental capacity to learn it. The Law is for all, and yet only for a few.

The Earthmen did not teach the students, of course. That was left up to the teaching priesthood. The Earthmen only showed the Grandfathers better methods for implanting knowledge in young minds.

The tests the Earthmen gave were incomprehensible, but they seemed to work all right. No one had ever failed a course at Bel-rogas, in sharp contrast to the other Schools, and its graduates were worthy of the highest positions in Nidorian society. Many had gone to the Temple to become priests, and it was expected that one day a graduate of Bel-rogas would be a member of the Council of Sixteen.

All in all, the great Lawyer and revered Ancestor, Bel-rogas Yorgen, should be well pleased with the School that had been named in his honor.

But the conversations of the students vibrated with strange undertones, somehow. Several of them who came from the northern province of Sugon had not showed up at all. Rumor had it that they were fighting to save their parents' farms from the onslaught of the armies of hugl.

And Kiv didn't like it.

"There should be *something* we can do about it," he told Narla. "There must be some way of stopping them."

"Edris powder," said Narla. "Edris powder kills the hugl. Edris powder always has killed the hugl."

"But it's not killing them now," he said savagely, and sank back into his gloom. The new semester was sliding by, and only one thing obsessed him: the failure of the Edris powder.

The Scripture prescribed Edris powder. Oh, not in so many words; but it did say, "Those ways are best which have been tried and pass the test."

Edris powder had passed the test. As long as there had been hugl, the Edris powder had controlled them.

But now the powder was failing. Could the test be passed once and then, failed, he wondered?

And, more important: could the Scripture be wrong? The thought sickened him.

The first three days of the new semester didn't even make an impression on him. He studied, but only half-heartedly, and what he learned left him as soon as classes ended. On the fourth day, eight of the young men asked permission to leave. They had received word that they were needed at home.

Within a week, the hugl problem had grown from a nuisance to the status of a full-fledged menace.

"You're not studying," Narla said, as he stared uneasily at the page of his textbook. "You're looking, but you're not studying. What's the matter?"

"Nothing," he said, and tried to focus his attention. But he couldn't study. He rubbed the palm of his hand over the light golden hair that blurred the outlines of his face, and shifted uneasily in his seat. He felt nervous without quite knowing what he was nervous about. The destruction of acres of crops, and even the occasional reports of lives being lost, bothered him, but there was something else gnawing at the back of his mind.

I'll look at it as if I'm an Earthman, he told himself. The Scripture says, rely on trusted things. The Scripture itself is a trusted thing. For thousands of years it has guided us safely. We are happy, contented with our world.

But what happens when the trusted guide no longer leads in the right direction? Kiv pretended for a moment that he was Jones, tried to look at the situation through his alien eyes.

When the trusted guide no longer leads, Jones might say—what?

Get a new guide?

He sat down to think it through—the whole thing, still using Jones's mind as a focus. And, when he came up with what he thought was a conclusion, he went somewhat timidly to Jones.

"I don't quite see what you mean, Kiv," the Earthman said, his eyes inscrutable. He leaned back on the comfortable chair in the tiny cubicle that was his office.

"Well, look here; we know that Edris powder is a nerve poison, right?"

Jones nodded wordlessly.

"Well, then, why doesn't it kill this new kind of hugl? I thought about it a long time, and I finally came up with an answer . . . at least, I think it's an answer," he said. He looked at Jones for reassurance, and the Earthman somehow seemed to smile with his eyes.

"Edris kills through the epidermis of the animal; it doesn't bother them if they eat it," Kiv went on. "Now: if a nerve poison doesn't work, it's because it's not getting

to the nerves. I checked my theory by measuring the thickness of the chitin armor of these black hugl, and I came up with something odd: the armor is half again as thick and considerably denser than the armor of the normal animal. The Edris takes longer to penetrate, and it takes more of it.

“How does that sound to you?”

Jones rubbed his smooth fingers through his chin hair. “It sounds perfectly logical to me. What about it?”

“Well, then, if we kill them when they’re still in the larval stage, they won’t have the protective armor. Edris can be put in the lakes and ponds in quantities great enough to kill the larval hugl without endangering any other aquatic life.”

“Perhaps,” Jones said cryptically.

“I’m sure of it,” said Kiv, just a little surprised at his own new confidence. “I’d like to go to the Council of Elders in Gelusar. If they will send the word out over the wires in time, we can stop the hugl onslaught before it becomes really serious.

“If you would come with me to Gelusar, we could explain how this might work, and—” He stopped. He could suddenly read the expression on the Earthman’s face, and he knew what it meant.

Jones confirmed it. “I’m sorry, Kiv. We are here only to teach, not to interfere in government policies. If you want to go to the Council, you have my permission to do so. In fact, you don’t even need my permission.”

Jones smiled. “It is said in the Scripture: ‘You shall govern yourselves according to the Law.’ ” He accented the *yourselves*.

Kiv considered that for a moment. “All right,” he said. “You’ve got me there. But it’s not fair.”

“The Scripture is a potent arguing force, Kiv. Don’t ever forget that.” The Earthman’s pale-blue eyes looked steadily at him. “If you can understand and use the Scripture and the Law, you need fear nothing—neither here, nor in the sky.”

“I . . . I see. Very well, Jones. If you think it is the right way, I shall go to the Council alone.”

Kiv left the room without another word. His thoughts were confused, not angry. Somehow, the Earthmen always seemed to strike at the very root of a problem, no matter how complex. And they could back up their solutions with unerring references to the unanswerable Scripture.

Kiv turned his thoughts over in his mind as his deest trotted down the winding road to the Holy City.

He had brought his notebooks and his specimen drawings with him; they would constitute his argument in favor of the new plan. He would have to be absolutely sure of what he was saying before he would be able to convince the all-powerful Council of Elders.

He had plenty of time. Because of the press of the emergency, it took four days to get an audience with the Elder of his Clan.

Kiv spent the four days wandering the city, trying not to think. Narla came down to join him on the second day, and they passed most of their time in the Grand Temple, staring at the huge lens through which the Great Light was focused.

Finally notification came through that Grandfather Bor peDrogh Brajjyd would see him.

Theoretically, any of the Elders of the Council of Sixteen would do, but in practice it was customary to call upon one's own Clan Elder. Thus, Kiv peGanz Brajjyd was obliged to seek audience with Elder Grandfather Bor peDrogh Brajjyd.

And Grandfather Bor peDrogh had been extremely busy for the past three days. On the fourth day, however, he consented to see Kiv, and because of the young man's status in the Bel-rogas School, the audience was for a full half hour.

A short, dark-skinned young acolyte, also of the Clan Brajjyd, ushered Kiv in. The Elder Grandfather's office was not ornate, but neither was it austere. It was decorated in simple good taste, with the customary symbol of the Great Light in its honored niche in the wall.

The Elder Grandfather's venerable age was visible in every line of his body. The golden aura of body hair had long since turned to silver, and was growing sparse on his face, making him look oddly like the Earthmen. His face was lined but peaceful, and his hands, though gnarled with age, were still quick and graceful.

Kiv knelt and bowed his head.

"The peace of your Ancestors be with you always," said the priest. His voice was deeper and more virile than Kiv had expected.

"And may the Great Light illumine your mind as He does the world," Kiv responded.

"Sit down, my son," the old man said in his bass voice. "Tell me what it is that troubles you."

"It's the hugl, Grandfather. The farmers are having a terrible time controlling them, and I understand the situation has been getting worse for the past six days."

"That is correct, my son. Just what is it you wish to tell me?"

Kiv drew a deep breath. He looked at the Grandfather, who suddenly seemed terribly, terribly ancient. For a wild moment he thought of throwing himself at the old man's feet, begging forgiveness.

No. Pretend you are Jones, he told himself.

He realized he had been sitting silently while the Grandfather had awaited his reply with patience.

"I think I've found something that might help, Grandfather. To wipe out the hugl, that is."

The shadow of a frown passed across the wrinkled face. "I see. Go on, my son." Still not a trace of impatience on the part of the Grandfather.



Kiv pulled his charts and drawings out of a leather carrying case.

"The trouble is that not very much is known about the hugl," he began. "Up to now, the Edris powder has controlled them well, so there was, of course, no reason to study them. But I did it as a sort of . . . well, as a sort of hobby, Grandfather. We call them 'projects' at the School; some little facet of life that we study in order to gain greater illumination in the Great Light's Law."

"Very interesting," said the old man. "I have heard that the Earthmen have ingenious ways of helping youngsters to learn. I think it's very commendable. And so you studied the hugl?"

"Yes, Grandfather. And I found out some rather weird things. You know those little teardrop-shaped things that you see swimming in ponds and lakes—the little animals that farmers call 'water wiggles'? Well, they are *young* hugl!"

"Young hugl?" The Grandfather frowned. "But they look nothing like hugl."

"I know, Grandfather," Kiv said. "That's the amazing thing. The young start out as little 'water wiggles' and live that way for most of their lives—about a year. They eat soft water plants and decaying organic matter, since they have no teeth.

"After a year of this kind of life, they go down to the bottom and bury themselves in the mud; where they stay for thirty-five to forty days. During that time, they live in a sort of shell built out of mud. They absorb their endoskeletons and grow exoskeletons. When they emerge, they're hugl. The hugl," Kiv concluded triumphantly, "is the adult female form of the water-wiggle.

"As soon as it cracks out of its shell in the mud, the adult hugl goes to the surface and swims to land. As I said, the thing we call the hugl is the female; the male is a much smaller animal, hardly more than an animated sex organ.

"The mating takes place on land, and the female immediately eats the male. Then she goes out and looks for more food—anything she can eat. And as long as she finds nothing to eat, she'll keep going looking for more—until she starves to death.

"If she does find food, she eats all she can hold, converting it into a kind of predigested concentrate. But her system can't assimilate anything she eats; her body just stores it.

"When she's eaten enough—when her glands tell her she's at the proper point, she crawls to a lake or pond, dies, and drops to the bottom.

"The eggs are never laid; they remain within the body of the female. The dead female, protected from dissolution by her hard armor, provides food for the young larvae for the first few days of their life, until they're ready to go out and hunt for food of their own.

"Then the cycle begins all over again," Kiv concluded.

The old priest had looked carefully at Kiv's diagrams and listened to his lecture with interest. When Kiv finished, the Grandfather stood up and wandered to the window. He nodded slowly.

"Very interesting. Very! And what bearing does this have on our present crisis?"

"I'm coming to that, Grandfather," Kiv continued. "You see, the reason that Edris powder isn't working so well this time is simply that a new variety of hugl has appeared which has an exoskeleton too heavy and dense to allow the Edris powder to penetrate very rapidly." He paused.

"But if we put the powder in the ponds, it will kill the young; the skins will absorb it immediately."

Kiv sat expectantly, while the old man returned to his desk, sat down, and began toying with a heavy, jewel-encrusted paperweight. Finally, the Grandfather said:

"A very interesting theory, and very ingeniously worked out. But I'm afraid it's not really of much practical use. As the Scripture says, 'Those ways are best which have been tried and passed the test.'"

*I might have known that was coming,* Kiv thought.

"You see," said the priest, "we have already alleviated the problem very simply. The farmers haven't been using enough Edris powder to cope with these hugl. Since the menace has been largely confined to the North so far, we have simply shipped additional quantities of Edris to the northern farmers. The hugl are dying."

"I see," Kiv said softly.

The Grandfather stood up in what could only be a gesture of dismissal. "I'm glad you told me all about the hugl, my son. Your instructors at the School must be fine ones. And now, I have another appointment. May the blessings of the Great Light beam down upon you and your children."

"... And, of course, he was right," Kiv told Jones. "And I can understand why you wanted no part of it."

"You can, eh?" The Earthman's eyes were glittering oddly. "Kiv, have you thought about what is going to happen in another thirty days? The southern regions are closer to the pole, and cooler than the northern farms. The hugl take about thirty more days to mature down there; they haven't even begun to pupate yet. Between the two sections we have mostly arid mountains; the hugl aren't much of a menace there."

Jones paused and jabbed a forefinger at Kiv. "But if the Council diverts the southerner's supplies of Edris to the north, what's going to happen?" Jones demanded.

"I don't know," said Kiv, scratching his fuzzy head in puzzlement. "I really don't know."

Jones stood up and walked toward the door of Kiv's room. "Yes, you do," Jones said. "You're just afraid to say it out loud."

Kiv picked up a book and weighed it idly with one hand. As usual, Jones had cut right to the heart of the problem.

"All right. If things keep on like this, either the south or the north or both will be wiped clean of crops."

Jones nodded solemnly. "A fine situation, don't you think?"

Before Kiv could reply, the Earthman had walked through the door and was gone.

\* \* \*

Classes continued as usual in Belrogas, but over everything hung an invisible cloud of fear and uncertainty. Kiv found himself too preoccupied with the crisis to be able to devote much time to his studies, and he couldn't even bear the thought of working in his laboratory. The sight of hugl had become completely abhorrent to him.

And then the reports began to trickle down from the north.

The Edris powder, when used in large enough amounts, killed even the black hugl quite nicely. Unfortunately, it was also killing the crops.

Stalemate. Either let the hugl eat the crops or kill them before harvest time with an excess of Edris powder.

"In either case, people are going to go hungry," Kiv told Narla.

"I suppose they'll begin rationing soon."

Kiv didn't even bother to reply.

"Kiv?"

He turned to look at up Narla. Her face seems thin already, he thought. It's only my imagination, though.

"What is it," he asked wearily.

"Kiv, didn't the Grandfather want to listen at all when you went to him?"

"I told you. He listened very carefully. He just wasn't open to suggestions, that's all."

Kiv studied the golden-fuzzed backs of his hands, and said no more. The implications now were terrifying. The Grandfathers were following the Scripture, and starvation was the consequence.

But the Great Light still streamed through the window.

"I'll go to Jones," he said. "Jones will help me."

Jones looked up quizzically when Kiv entered.

"I hope I didn't disturb your work," Kiv began apologetically.

Jones put him at ease immediately with a quick grin. "What's on your mind, Kiv?"

Kiv sat down in the chair facing Jones. He fumbled for an opening.

"The hugl?" Jones prompted.

"If they'd only accepted my plan!" Kiv broke out, almost bitterly. "Now what will they do?"

Jones leaned forward, and Kiv felt a sudden glow of confidence radiating from him. The thought struck him that the Earthmen must really be from the Great Light; in their quiet inconspicuous way, they had become the props on which the Nidorians could lean in the time of trouble.

When the Earthmen had arrived, Kiv thought, they said they were here to guide us toward the Light. So my father Ganz told me. And it must be true.

"What will they do now?" Kiv repeated, wondering if Jones knew the answer. And Jones did.

"Kiv," said Jones softly, "you just didn't approach the Grandfather the right way. You didn't show him how the situation was according to the Law."

"How could I?" Kiv burst out. "There's nothing in the Law about this!"

Jones held up a hand. "You're still too impatient, Kiv. Listen to me. For one thing, you didn't tell him that you had watched the life cycle of the hugl with your own eyes. The Elder Grandfather probably thought you were just speculating. But the Scriptural passages would—"

Suddenly Kiv stood up. "I've got it! It was a passage that Narla quoted, from the Fourteenth Section: 'To destroy a thing, one must cut at the root, and not at the branch.'

"Jones! I'm going back to Gelusar!"

The dark-skinned little acolyte attempted to block Kiv as he burst into the vestibule of Elder Grandfather Bor peDrogh Brajjyd's office.

"You can't go in there like that!" the acolyte said.

"This is important," said Kiv.

"I say you can't go in there! The Elder Grandfather is not there, anyway."

"Where is he?"

"He's at a meeting of the Council," the acolyte said. "Not that that could possibly concern you."

Kiv didn't stay to argue. He dashed down the corridor and sped across the crowded street to the great dome of the Grand Temple. Then, almost unthinkingly, he plunged inside and found himself heading toward the High Council room. The enormity of what he was doing did not strike him until he was inside the ornate room, facing the sixteen Elder Grandfathers as they sat in a majestic semi-circle.

They didn't even notice him for a while, so intent were they on their deliberations. Kiv's eyes passed from one to another.

There was the Elder of the Clan Sesom—Narla's clan. He recognized several of the other Clan Elders among the venerable assemblage. The very tall, gaunt man was Yorgen peYorgen Yorgen, a lineal descendant of the great Bel-rogas. Everyone knew him. And the somewhat plump Elder in crimson robes was Ganz peDrang Kovnish. And, of course, he recognized the Elder Brajjyd. The others, Kiv did not know.

Finally one of the elders noticed him.

"What are you doing here? Who are you?"

Kiv felt like turning and running. He held his ground, however, when he saw the Elder Brajjyd smiling at him.

"This man is of my Clan," the Elder Grandfather said in his prodigious bass rumble. "He spoke to me earlier; he has studied the hugl at the Bel-rogas."

At the mention of the School Kiv perceived a visible change in the Council's manner.

"He had some interesting information for me. But what is it you want now?" The Elder Grandfather leaned forward as if to hear Kiv's reply more clearly.

Slowly, as if there were no one in the room but some other students at the School, he began to explain the life-cycle of the hugl to the Council as he had to the Elder Brajjyd earlier. They watched with seeming interest as Kiv spoke.

When he was finished, it was the Elder Kovnish who broke the silence.

"The Scripture says on this matter that—"

Had it been the fierce-looking Elder Yorgen who was speaking, Kiv would have never dared interrupt. But the chubby Elder Kovnish did not seem so terrifying to Kiv. He cut the Elder off in mid-sentence.

"Yes, the Scripture." He cited Narla's quotation: "To destroy a thing, cut at the root, not at the branch."

"Fourteenth Section," the Elder Yorgen said in a sepulchral voice.

And then it seemed to Kiv that he was talking to the Elders as if they might be pupils of his. Heatedly he threw out his arms.

"Don't you see? The branch means the adult hugl; the root means the larva! It's right there in the Scripture: cut at the root of the menace! Pour Edris powder into the lakes; kill the larvae!"

The sixteen members of the Council stared coldly at Kiv for what seemed to him an infinitely long time. Then, as the meaning of what he had demonstrated broke through to them, their stony silence turned to an excited hubbub.

"That's the last of it," said Nibro peGanz Korvish. The burly farmer crumpled the empty packet of Edris powder and let it fall to the ground. He turned to face Kiv, who stood watching him.

"Craziest thing I ever heard," Nibro peGanz said. "Dumping Edris into my lake. Might as well lie down and let the hugl eat me, too."

"Patience, friend," Kiv said. "The Council has decided."

"And therefore I accept," the farmer responded reluctantly.

"Right. I'll be back to check on your farm in six days," Kiv mounted his deest and trotted on down to the next farm.

The six days passed slowly, and then Kiv revisited the farms in the test areas.

The few hugl that had made their appearance didn't even constitute a swarm, much less a menace.

"It's all over," he said, throwing open the door of Jones's office with an assurance he had never known before. The Earthman was waiting inside, with Narla.

"What happened?" Narla asked anxiously.

"As expected," Kiv said. "Perfectly as expected. Hardly a hugl to be found."

Narla sighed in relief, and Jones's face creased in a broad smile.

"Congratulations," Jones said. "That makes you a celebrity, I suppose. The Man Who Saved the World."

"It was your doing, Jones. You showed me how."

Jones shook his head. "Ah, no! It was *your* doing. I'm merely here as a guide. My aim is eventually to bring you and your people to the Great Light, Kiv. But actually I will only help you to bring yourselves. When you guide a deest, it is still the deest, not you, who is doing the real work."

Kiv frowned. "I don't care much for your analogy."

"Don't let him upset you," Narla said. "He's only teasing again." She drew close to him. "I'm tremendously proud of you," she said.

Jones rubbed his beard with a forefinger. "In a way, Kiv, I am, too. I can't help but think of how much you've learned since you came to Bel-rogas. You've really made progress."

"Do you think he should become a priest? And maybe someday become an Elder?" Narla asked.

"Why, I think they ought to put him on the Council right now," Jones replied. "After all, if he could walk right in there and tell the Council how to run Nidor—"

Jones paused and looked at Kiv, and Kiv met his glance with difficulty. There was something strange in the Earthman's blue eyes.

"Let's go outside," Kiv said. "The air in here's none too fresh." At the suggestion, Narla and Jones arose. The three of them filed out of Jones's office.

As they slowly proceeded down the stairs, Kiv considered what Jones had just said. *After all, if he could walk right in there and tell the Council how to run Nidor—*

But they were *Elders*, and he was only Kiv peGanz Bräjjyd, an insignificant student. And he had told them what to do. And they had accepted it.

The thought suddenly cut into him. Since the beginning of time, young men had sat quietly and listened to the counsels of the Elders. Now, a bare thirty years after the Earthmen had descended from the sky, the age-old pattern had begun to break. Was this the way the Earthmen were leading them toward the Light? The enormity of what he had done struck him, and then the even greater enormity that no one had questioned his action. No one. The Earthmen were having their effects on Nidor, all right.

They reached the foot of the stairs. Absently, he turned to enter the little room where his laboratory was. He opened the door and saw the rows and rows of cabinets, each with their specimens of hugl, and right in the center of the room was the larva tank.

"Where are you going, Kiv?" Jones called. "I thought you wanted some fresh air."

Jones started to walk out the front door, followed by Narla. Kiv hastened to catch up with them.

"What's on your mind, Kiv?" Jones asked, as Kiv reached the door.

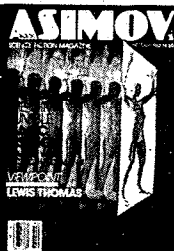
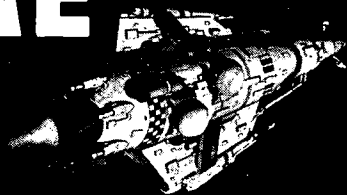
"Nothing, Jones, nothing." But he was certain the Earthman knew exactly what was on his mind.

He stepped out of the building onto the front lawn of the Bel-rogas campus. He looked up, and the Great Light illumined the cloud-laden sky. Suddenly he thought again of the quotation from the Fourteenth Section—and for some reason, his head began to hurt. ■

# COME

EXPLORE  
WITH US...  
AND  
DISCOVER

SUBSCRIBE NOW —



JOIN THOUSANDS OF SF AFICIONADOS IN OUR MONTHLY VOYAGES TO THE OUTER LIMITS OF IMAGINATION. ENJOY 176 PAGES PACKED WITH 10-15 STORIES BY FAVORITE AUTHORS LIKE AVRAM DAVIDSON, LARRY NIVEN, BARRY LONG-

YEAR, JAMES GUNN, JO CLAYTON, JACK C. HALDEMAN II, JOAN S. VINGE, A. BERTRAM CHANDLER (AND ISAAC ASIMOV TOO)!

New Subscribers Only.

DETACH HERE AND RETURN COUPON TO

**ISAAC ASIMOV'S SCIENCE FICTION MAGAZINE**

Box 1933 • Marion, Ohio 43305

☐ Send me 13 issues for \$12.97

☐ Payment enclosed ☐ Bill me

Outside U.S.A. & Possessions (cash only)

DIAL TOLL FREE 1-800-247-2160  
(in Iowa 1-800-362-2860)

Name (please print) \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Allow 6 to 8 weeks for delivery of first issue

D3Y33

# EPILOGUE

Poul Anderson

*Memories attach to all stories, in the minds of their authors, but I think "Epilogue" may carry a few more than most do.*

*The idea for it was sparked by a report in Scientific American about a proposal to build metal-harvesting, self-reproducing oceanic robots. I only steal from the best sources. In this case, it soon turned out that I had caught a rather large beast. The manuscript reached a length unwieldy for publication.*

*Nevertheless, when my agent tried it first on John Campbell, it was bought with one of the fastest checks he had ever gotten. Two or three weeks afterward I received a typical Campbell letter, several single-spaced, intellectually explosive pages. He didn't think the evolutionary process in the story would work, and wanted me to know why. Of course, I disagreed. Arguments with John were one of life's great pleasures. He didn't ask for changes, but printed my work exactly as it stood. His reputation for being dictatorial had no basis in fact, unless perhaps he overwhelmed some individuals by sheer force of personality. If so, surely that was never his intention.*

*I did have to stand corrected later. At that time, I was corresponding with a Nobel Prize-winning scientist about quite a different matter. It turned out that he was a reader of science fiction. He mentioned having seen "Epilogue"—and set me straight on a point of grammar!*



HIS NAME WAS A SET of radio pulses. Converted into equivalent sound waves, it would have been an ugly squawk; so because he, like any consciousness, was the center of his own co-ordinate system, let him be called Zero.

He was out hunting that day. Energy reserves were low in the cave. That other who may be called One—being the most important dweller in Zero's universe—had not complained. But there was no need to. He also felt a dwindling potential. Accumulators grew abundantly in their neighborhood, but an undue amount of such cells must be processed to recharge One while she was creating. Motiles had more concentrated energy. And, of course, they were more highly organized. Entire parts could be taken from the body of a motile, needing little or no reshaping for One to use. Zero himself, though the demands on his functioning were much less, wanted a more easily assimilated charge than the accumulators provided.

In short, they both needed a change of diet.

Game did not come near the cave any more. The past hundred years had taught that it was unsafe. Eventually, Zero knew, he would have to move. But the thought of helping One through mile upon mile, steep, overgrown, and dangerous, made him delay. Surely he could still find large motiles within a few days' radius of his present home. With One's help he fastened a carrier rack on his shoulders, took weapons in hand, and set forth.

That was near sunset. The sky was still light when he came on spoor: broken earth-crystals not yet healed, slabs cut from several boles, a trace of lubricant. Tuning his receptors to the highest sensitivity, he checked all the bands commonly made noisy by motiles. He caught a low-amplitude conversation between two persons a hundred miles distant, borne this far by some freak of atmospheric; closer by he sensed the impulses of small scuttering things, not worth chasing; a flier jetted overhead and filled his perception briefly with static. But no vibration of the big one. It must have passed this way days ago and now be out of receptor shot.

Well, he could follow the trail, and catch up with the clumsy sawyer in time. It was undoubtedly a sawyer—he knew these signs—and therefore worth a protracted hunt. He ran a quick check on himself. Every part seemed in good order. He set into motion, a long stride which must eventually overhaul anything on treads.

Twilight ended. A nearly full moon rose over the hills like a tiny cold lens. Night vapors glowed in masses and streamers against a purple-black sky where stars glittered in the optical spectrum and which hummed and sang in the radio range. The forest sheened with alloy, flashed with icy speckles of silicate. A wind blew through the radiation absorber plates overhead, setting them to ringing against each other; a burrower whirled, a grubber crunched through lacy crystals, a river brawled chill and loud down a ravine toward the valley below.

As he proceeded, weaving among trunks and girders and jointed rods with the ease

of long practice, Zero paid most attention to his radio receptors. There was something strange in the upper communication frequencies tonight, an occasional brief note . . . set of notes, voice, drone, like nothing he had heard before or heard tell of . . . But the world was a mystery. No one had been past the ocean to the west or the mountains to the east. Finally Zero stopped listening and concentrated on tracking his prey. That was difficult, with his optical sensors largely nullified by the darkness, and he moved slowly. Once he tapped lubricant from a cylinder growth and once he thinned his acids with a drink of water. Several times he felt polarization in his energy cells and stopped for a while to let it clear away; he rested.

Dawn paled the sky over distant snowpeaks, and gradually turned red. Vapors rolled up the slopes from the valley, tasting of damp and sulfide. Zero could see the trail again, and began to move eagerly.

Then the strangeness returned—louder.

Zero slid to a crouch. His lattice swiveled upward. Yes, the pulses did come from above. They continued to strengthen. Soon he could identify them as akin to the radio noise associated with the functioning of a motile. But they did not sense like any type he knew. And there was something else, a harsh flickering overtone, as if he also caught leakage from the edge of a modulated shortwave beam—

The sound struck him.

At first it was the thinnest of whistles, high and cold above the dawn clouds. But within seconds it grew to a roar that shook the earth, reverberated from the mountains, and belled absorber plates until the whole forest rang. Zero's head became an echo chamber; the racket seemed to slam his brain from side to side. He turned dazzled, horrified sensors heavenward. And he saw the thing descending.

For a moment, crazily, he thought it was a flier. It had the long spindle-shaped body and the air fins. But no flier had ever come down on a tail of multi-colored flame. No flier blocked off such a monstrous portion of sky. When the thing must be two miles away!

He felt the destruction as it landed: shattered frames, melted earth-crystals, a little burrower crushed in its den, like a wave of anguish through the forest. He hurled himself flat on the ground and hung on to sanity with all four hands. The silence which followed, when the monster had settled in place, was like a final thunderclap.

Slowly Zero raised his head. His perceptions cleared. An arc of sun peered over the sierra. It was somehow outrageous that the sun should rise as if nothing had happened. The forest remained still, hardly so much as a radio hum to be sensed. The last echoes flew fading between the hills.

A measure of resolution; this was no time to be careful of his own existence. Zero poured full current into his transmitter. "Alarm, alarm! All persons receiving, prepare to relay. Alarm!"

Forty miles thence, the person who may as well be called Two answered, increasing

output intensity the whole time: "Is that you, Zero? I noticed something peculiar in the direction of your establishment. What is the matter?"

Zero did not reply at once. Others were coming in, a surge of voices in his head, from mountaintops and hills and lowlands, huts and tents and caves, hunters, miners, growers, searakers, quarriers, toolmakers, suddenly become a unity. But he was flashing at his own home: "Stay inside, One. Conserve energy. I am unharmed, I will be cautious, keep hidden and stand by for my return."

"Silence!" called a stridency which all recognized as coming from Hundred. He was the oldest of them, he had probably gone through a total of half a dozen bodies. Irreversible polarization had slowed his thinking a little, taken the edge off, but the wisdom of his age remained and he presided over their councils. "Zero, report what you have observed."

The hunter hesitated. "That is not easy. I am at—" He described the location. ("Ah, yes," murmured Fifty-six, "near that large galena lick.") "The thing somewhat resembles a flier, but enormous, a hundred feet long or more. It came down about two miles north of here on an incandescent jet and is now quiet. I thought I overheard a beamed signal. If so, the cry was like nothing any motile ever made."

"In these parts," Hundred added shrewdly. "But the thing must have come from far away. Does it look dangerous?"

"Its jet is destructive," Zero said, "but nothing that size, with such relatively narrow fins, could glide about. Which makes me doubt it is a predator."

"Lure accumulators," said Eight.

"Eh? What about them?" asked Hundred.

"Well, if lure accumulators can emit signals powerful enough to take control of any small motile which comes near and make it enter their grinders, perhaps this thing has a similar ability. Then, judging from its size, its lure must have tremendous range and close up could overpower large motiles. Including even persons?"

Something like a shiver moved along the communication band.

"It is probably just a grazer," said Three. "If so—" His overt signal trailed off, but the thought continued in all their partly linked minds: *A motile that big! Megawatt-hours in its energy cells. Hundreds of thousands of usable parts. Tons of metal. Hundred, did your great-grandcreator recall any such game, fabulous millennia ago?*

No.

*If it is dangerous, it must be destroyed or driven off. If not, it must be divided among us. In either case: attacked!*

Hundred rapped the decision forth. "All male persons take weapons and proceed to rendezvous at Broken Glade above the Coppertaste River. Zero, stalk as close as seems feasible, observe what you can, but keep silence unless something quite unforeseeable occurs. When we are gathered, you can describe details on which we may base a specific plan. Hasten!"

The voices toned away in Zero's receptor circuits. He was alone again.

The sun cleared the peaks and slanted long rays between the forest frames. Accumulators turned the black faces of their absorber plates toward it and drank thirstily of radiation. The mists dissipated, leaving boles and girders ashine with moisture. A breeze tinkled the silicate growths underfoot. For a moment Zero was astonishingly conscious of beauty. The wish that One could be here beside him, and the thought that soon he might be fused metal under the monster's breath, sharpened the morning's brightness.

Purpose congealed in him. Further down was a turmoil of frank greed. In all the decades since his activation there had been no such feast as this quarry should provide. Swiftly, he prepared himself. First he considered his ordinary weapons: The wire noose would never hold the monster, nor did he think the iron hammer would smash delicate moving parts—it did not seem to have any—or the steel bolts from his crossbow pierce a thin plate to short out a crucial circuit. But the clawed, spear-headed pry bar might be of use. He kept it in one hand while two others unfastened the fourth and laid it with his extra armament in the carrier rack. Thereupon they deftly hooked his cutting torch in its place. No one used this artificial device except for necessary work, or to finish off a big motile whose cells could replace the tremendous energy expended by the flame, or in cases of dire need. But if the monster attacked him, that would surely constitute dire need. His only immediate intention was to spy on it.

Rising, he stalked among shadows and sun reflections, his camouflage-painted body nearly invisible. Such motiles as sensed him fled or grew very still. Not even the great slasher was as feared a predator as a hunting person. So it had been since that ancient day when some forgotten savage genius made the first crude spark gap and electricity was tamed.

Zero was about halfway to his goal, moving slower and more carefully with each step, when he perceived the newcomers.

He stopped dead. Wind clanked the branches above him, drowning out any other sound. But his electronic sensors told him of . . . two . . . three moving shapes, headed from the monster. And their emission was as alien as its own.

In a different way. Zero stood for a long time straining to sense and to understand what he sensed. The energy output of the three was small, hardly detectable even this close; a burrower or skitterer used more power to move itself. The output felt peculiar, too, not really like a motile's: too simple, as if a mere one or two circuits oscillated. Flat, cold, activityless. But the signal output, on the other hand—it *must* be signal, that radio chatter—why, that was a shout. The things made such an uproar that receptors tuned at minimum could pick them up five miles away. As if they did not know about game, predators, enemies.

Or as if they did not care.

A while more Zero paused. The eeriness of this advent sent a tingle through him. It might be said he was gathering courage. In the end he gripped his pry bar more tightly and struck off after the three.

They were soon plain to his optical and radar senses among the tall growths. He went stock-still behind a frame and watched. Amazement shocked his very mind into silence. He had assumed, from their energy level, that the things were small. But they stood more than half as big as he did! And yet each of them had only one motor, operating at a level barely sufficient to move a person's arm. That could not be their power source. But what was?

Thought returned to him. He studied their outlandishness in some detail. They were shaped not altogether unlike himself, though two-armed, hunchbacked, and featureless. Totally unlike the monster, but unquestionably associated with it. No doubt it had sent them forth as spy eyes, like those employed by a boxroller. Certain persons had been trying for the last century or so, to develop, from domesticated motiles, similar assistants for hunting persons. Yes, a thing as big and awkward as the monster might well need auxiliaries.

Was the monster then indeed a predator? Or even—the idea went like a lightning flash through Zero's entire circuitry—a thinker? Like a person? He struggled to make sense of the modulated signals between the three bipeds. No, he could not. But—

Wait!

Zero's lattice swung frantically back and forth. He could not shake off the truth. That last signal had come from the monster, hidden by a mile of forest. From the monster to the bipeds. And were they answering?

The bipeds were headed south. At the rate they were going, they might easily come upon traces of habitation, and follow those traces to the cave where One was, long before Hundred's males had gathered at Broken Glade.

The monster would know about One.

Decision came. Zero opened his transmitter to full output, but broadcast rather than beamed in any degree. He would give no clue where those were whom he called. "Attention, attention! Tune in on me: direct sensory linkage. I am about to attempt capture of these motiles."

Hundred looked through his optics, listened with his receptors, and exclaimed, "No, wait, you must not betray our existence before we are ready to act."

"The monster will soon learn of our existence in any event," Zero answered. "The forest is full of old campsites, broken tools, traps, chipped stones, slagheaps. At present I should have the advantage of surprise. If I fail and am destroyed, that ought still to provide you with considerable data. Stand alert!"

He plunged from behind the girders.

The three had gone past. They sensed him and spun about. He heard a jagged modulation of their signal output. A reply barked back, lower in frequency: the voice of the monster? There was no time to wonder about that. Slow and clumsy though they were, the bipeds had gotten into motion. The central one snatched a tube slung across its back. Pounding toward them, through shattering crystals and clangorous

branches, Zero thought, *I have not yet made any overtly hostile move, but—* The tube flashed and roared.

An impact sent Zero staggering aside. He went to one knee. Ripped circuits overwhelmed him with destruction signals. As the pain throbbed toward extinction, his head cleared enough to see that half his upper left arm was blown off.

The tube was held steady on him. He rose. The knowledge of his danger flared in him. A second biped had its arms around the third, which was tugging a smaller object from a sheath.

Zero discharged full power through his effectors. Blurred to view by speed, he flung himself to one side while his remaining left hand threw the pry bar. It went meteorlike across a shaft of sunlight and struck the tube. The tube was pulled from the biped's grasp, slammed to the ground and buckled.

Instantly Zero was upon the three of them. He had already identified their communication system: a transmitter and antenna actually outside the skin! His one right hand smashed across a biped's back, tearing the radio set loose. His torch spat with precision. Fused, the communicator of a second biped went dead.

The third one tried to escape. Zero caught it in four strides, plucked off its antenna, and carried it wildly kicking under one arm while he chased the other two. When he had caught the second, the first stood its ground and battered forlornly at him with its hands. He lashed them all together with his wire rope. As a precaution, he emptied the carrier rack of the one which had shot him. Those thin objects might be dangerous even with the tube that had launched them broken. He stuffed the bipeds into his own carrier.

For a moment, then, he lingered. The forest held little sonic noise except the wind in the accumulators. But the radio spectrum clamored. The monster howled; Zero's own broadcast rolled between sky and mountainside, from person to person and so relayed across the land.

"No more talk now," he finished his report. "I do not want the monster to track me. I have prevented these auxiliaries from communicating with it. Now I shall take them to my cave for study. I hope to present some useful data at the rendezvous."

"This may frighten the monster off," Seventy-two said.

"So much the better," Hundred answered.

"In that case," Zero said, "I will at least have brought back something from my hunt."

He snapped off his transmission and faded into the forest shadows.

## II

The boat had departed from the spaceship on a mere whisper of jets. Machinery inboard hummed, clicked, murmured, sucked in exhausted air and blew out renewed, busied itself with matters of warmth and light, computation and propulsion. But it made no more than a foundation for silence.

Hugh Darkington stared out the forward port. As the boat curved away from the mother ship's orbit, the great hull gleamed across his sky—fell astern and rapidly dwindled until lost to view. The stars which it had hidden sprang forth, icy-sharp points of glitter against an overwhelming blackness.

They didn't seem different to him. They were, of course. From Earth's surface the constellations would be wholly alien. But in space so many stars were visible that they made one chaos, at least to Darkington's eyes. Captain Thurshaw had pointed out to him, from the ship's bridge, that the Milky Way had a new shape, this bend was missing and that bay had not been there three billion years ago. To Darkington it remained words: He was a biologist and had never paid much attention to astronomy. In the first numbness of loss and isolation, he could think of nothing which mattered less than the exact form of the Milky Way.

Still the boat spiraled inward. Now the moon drifted across his view. In those eons since the *Traveler* left home, Luna had retreated from Earth: not as far as might have been predicted, because—they said—Bering Straits had vanished with every other remembered place; but nonetheless, now it was only a tarnished farthing. Through the ship's telescopes it had looked like itself. Some new mountains, craters, and maria, some thermal erosion of old features, but Thurshaw could identify much of what he once knew. It was grotesque that the moon should endure when everything else had changed.

Even the sun. Observed through a dimmer screen, the solar disk was bloated and glaring. Not so much in absolute terms, perhaps. Earth had moved a little closer, as the friction of interplanetary dust and gas took a millennial toll. The sun itself had grown a little bigger and hotter, as nuclear reactions intensified. In three billion years, such things became noticeable even on the cosmic scale. To a living organism they totaled doomsday.

Darkington cursed under his breath and clenched a fist till the skin stretched taut. He was a thin man, long-faced, sharp-featured, his brown hair prematurely sprinkled with gray. His memories included beautiful spires above an Oxford quad, wonder seen through a microscope, a sailboat beating into the wind off Nantucket, which blew spray and a sound of gulls and church bells at him, comradeship bent over a chessboard or hoisting beer steins, forests hazy and ablaze with Indian summer: and all these things were dead. The shock had worn off, the hundred men and women aboard the *Traveler* could function again, but home had been amputated from their lives and the stump hurt.

Frederika Ruys laid her own hand on his and squeezed a little. Muscle by muscle he untensed himself, until he could twitch a smile in response to hers. "After all," she said, "we knew we'd be gone a long time. That we might well never come back."

"But we'd have been on a living planet," he mumbled.

"So we can still find us one," declared Sam Kuroki from his seat at the pilot console. "There's no less than six G-type stars within fifty light-years."



"It won't be the same," Darkington protested.

"No," said Frederika. "In a way, though, won't it be more? We, the last humans in the universe, starting the race over again?"

There was no coyness in her manner. She wasn't much to look at, plump, plain, with straight yellow hair and too wide a mouth. But such details had ceased to matter since the ship ended time acceleration. Frederika Ruys was a brave soul and a skilled engineer. Darkington felt incredibly lucky that she had picked him.

"Maybe we aren't the last, anyhow," Kuroki said. His flat features broke in one of his frequent grins; he faced immensity with a sparrow's cockiness. "Ought to've been other colonies than ours planted, oughtn't there? Of course, by now their descendants 'ud be bald-headed dwarfs who sit around thinking in calculus."

"I doubt that," Darkington sighed. "If humans had survived, anywhere else in the galaxy, don't you think they would at least have come back and . . . and reseeded this with life? The mother planet?" He drew a shaken breath. They had threshed this out a hundred times or more while the *Traveler* orbited about unrecognizable Earth, but they could not keep from saying the obvious again and again, as a man must keep touching a wound on his body. "No, I think the war really did begin soon after we left. The world situation was all set to explode."

That was why the *Traveler* had been built, and even more why it had departed in such haste, his mind went on. Fifty couples scrambling off to settle on Tau Ceti II before the missiles were unleashed. Oh, yes, officially they were a scientific team, and one of the big foundations had paid for the enterprise. But in fact, as everyone knew, the hope was to insure that a fragment of civilization would be saved, and some day return to help rebuild. (Even Panasia admitted that a total war would throw history back a hundred years; western governments were less optimistic.) Tension had mounted so horribly fast in the final months that no time was taken for a really careful check of the field drive. So new and little understood an engine ought to have had scores of test flights before starting out under full power. But . . . well . . . next year might be too late. And exploratory ships *had* visited the nearer stars, moving just under the speed of light, their crews experiencing only a few weeks of transit time. Why not the *Traveler*?

"The absolute war?" Frederika said, as she had done so often already. "Fought until the whole world was sterile? No. I won't believe it."

"Not in that simple and clean-cut a way," Darkington conceded. "Probably the war did end with a nominal victor; but he was more decimated and devastated than anyone had dared expect. Too impoverished to reconstruct, or even to maintain what little physical plant survived. A downward spiral into the Dark Ages."

"H-m-m, I dunno," Kuroki argued. "There were a lot of machines around. Automation, especially. Like those self-reproducing, sun-powered, mineral-collecting sea rafts. And a lot of other self-maintaining gadgets. I don't see why industry couldn't be revived on such a base."



"Radioactivity would have been everywhere," Darkington pointed out. "Its long-range effect on ecology—Oh, yes, the process may have taken centuries, as first one species changed or died, and then another dependent on it, and then more. But how could the human survivors recreate technology when biology was disintegrating around them?" He shook himself and stiffened his back, ashamed of his self-pity a minute ago, looking horror flatly in the face. "That's my guess. I could be wrong, but it seems to fit the facts. We'll never know for certain, I suppose."

Earth rolled into sight. The planetary disk was still edged with blueness darkening toward black. Clouds still trailed fleecy above shining oceans; they gleamed upon the darkness near the terminator as they caught the first light before sunrise. Earth was forever fair.

But the continental shapes were new, speckled with hard points of reflection upon black and ochre where once they had been softly green and brown. There were no polar caps; sea-level temperatures ranged from eighty to two hundred degrees Fahrenheit. No free oxygen remained: the atmosphere was nitrogen, its oxides, ammonia, hydrogen sulfide, sulfur dioxide, carbon dioxide, and steam. Spectroscopes had found no trace of chlorophyll or any other complex organic compound. The ground cover, dimly glimpsed through clouds, was metallic.

This was no longer Earth. There was no good reason why the *Traveler* should send a boat and three highly unexpendable humans down to look at its lifelessness. But no one had suggested leaving the Solar System without such a final visit. Darkington remembered being taken to see his grandmother when she was dead. He was twelve years old and had loved her. It was not her in the box, that strange unmeaningful mask, but where then was she?

"Well, whatever happened seems to be three billion years in the past," Kuroki said, a little too loudly. "Forget it. We got troubles of our own."

Frederika's eyes had not left the planet. "We can't ever forget, Sam," she said. "We'll always wonder and hope—they, the children at least—that it didn't happen to them too cruelly." Darkington started in surprise as she went on murmuring, very low, oblivious of the man:

*"to tell you of the ending of the day.  
And you will see her tallness with surprise,  
and looking into gentle, shadowed eyes  
protest: it's not that late; you have to stay  
awake a minute more, just one, to play  
with yonder ball. But nonetheless you rise  
so they won't hear her say, 'A baby cries,  
but you are big. Put all your toys away.'*

*"She lets you have a shabby bear in bed,  
though frankly doubting that you two can go*

*through dream-shared living rooms or wingless flight.*

*She tucks the blankets close beneath your head*

*and smooths your hair and kisses you, and so*

*goes out, turns off the light. 'Good night, Sleep tight.' "*

Kuroki glanced around at her. The plaid shirt wrinkled across his wide shoulders. "Pomes yet," he said. "Who wrote that?"

"Hugh," said Frederika. "Didn't you know he published poetry? Quite a bit. I admired his work long before I met him."

Darkington flushed. Her interest was flattering, but he regarded "Then Death Will Come" as a juvenile effort.

However, his embarrassment pulled him out of sadness. (On the surface. Down beneath, it would always be there, in every one of them. He hoped they would not pass too much of it on to their children. Let us not weep eternally for Zion.) Leaning forward, he looked at the planet with an interest that mounted as the approach curve took them around the globe. He hoped for a few answers to a hell of a lot of questions.

For one thing; why, in three billion years, had life not re-evolved? Radioactivity must have disappeared in a few centuries at most. The conditions of primordial Earth would have returned. Or would they? What had been lacking, this time around?

He woke from his brown study with a jerk as Kuroki said, "Well, I reckon we can steepen our trajectory a bit." A surprising interval had passed. The pilot touched controls and the mild acceleration increased. The terrestrial disk, already enormous, swelled with terrifying velocity, as if tumbling down upon them.

Then, subtly, it was no longer to one side or above, but was beneath; and it was no longer a thing among the stars but the convex floor of bowl-shaped creation. The jets blasted more strongly. Kuroki's jaws clenched till knots of muscle stood forth. His hands danced like a pianist's.

He was less the master of the boat, Darkington knew, than its helper. So many tons, coming down through atmospheric turbulence at such a velocity, groping with radar for a safe landing spot, could not be handled by organic brain and nerves. The boat's central director—essentially a computer whose input came from the instruments and whose efferent impulses went directly to the controls—performed the basic operations. Its task was fantastically complex: very nearly as difficult as the job of guiding the muscles when a man walks. Kuroki's fingers told the boat, "Go that way," but the director could overrule him.

"I think we'll settle among those hills." The pilot had to shout now, as the jets blasted stronger. "Want to come down just east of the sunrise line, so we'll have a full day ahead of us, and yonder's the most promising spot in this region. The lowlands look too boggy."

Darkington nodded and glanced at Frederika. She smiled and made a thumbs-up

sign. He leaned over, straining against his safety harness, and brushed his lips across hers. She colored with a pleasure that he found oddly moving.

Some day, on another planet—that possibly hadn't been born when they left Earth—

He had voiced his fears to her, that the engine would go awry again when they started into deep space, and once more propel them through time, uncontrollably until fuel was exhausted. A full charge in the tanks was equivalent to three billion years, plus or minus several million; or so the physicists aboard had estimated. In six billion A.D. might not the sun be so swollen as to engulf them when they emerged?

She had rapped him across the knuckles with her slide rule and said no, but you'll have to take my word for it because you haven't got the math. I've studied it as far as differential equations, he said. She grinned and answered that then he'd never had a math course. It seemed, she said, that time acceleration was readily explained by the same theory which underlay the field drive. In fact, the effect had been demonstrated in laboratory experiments. Oh, yes, I know about that, he said; reactive thrust is rotated through a fourth dimension and gets applied along the temporal rather than a spatial axis. You do not know a thing about it, she said, as your own words have just proved. But never mind. What happened to us was that a faulty manifold generated the t-acceleration effect in our engine. Now we've torn everything down and rebuilt from scratch. We know it'll work right. The tanks are recharged. The ship's ecosystem is in good order. Any time we want, we can take off for a younger sun, and travel fifty light-years without growing more than a few months older. After which, seeing no one else was around, she sought his arms; and that was more comforting than her words.

*A last good-bye to Grandmother Earth, he thought. Then we can start the life over again that we got from her.*

The thrust upon him mounted. Toward the end he lay in his chair, now become a couch, and concentrated on breathing.

They reached ground.

Silence rang in their ears for a long while. Kuroki was the first to move. He unstrapped his short body and snapped his chair back upright. One hand unhooked the radio microphone, another punched buttons. "Boat calling *Traveler*," he intoned. "We're O.K. so far. Come in, *Traveler*. Hello, hello."

Darkington freed himself, stiffly, his flesh athrob, and helped Frederika rise. She leaned on him a minute. "Earth," she said. Gulping: "Will you look out the port first, dearest? I find I'm not brave enough."

He realized with a shock that none of them had yet glanced at the landscape. Convulsively, he made the gesture.

He stood motionless for so long that finally she raised her head.

### III

They did not realize the full strangeness before they donned spacesuits and went

outside. Then, saying very little, they wandered about, looking and feeling. Their brains were slow to develop the gestalts which would allow them really to see what surrounded them. A confused mass of detail could not be held in the memory, the underlying form could not be abstracted from raw sense impressions. A tree is a tree, anywhere and anywhen, no matter how intricate its branching or how oddly shaped its leaves and blossoms. But what is a—

—thick shaft of gray metal, planted in the sand, central to a labyrinthine skeleton of straight and curved girders, between which run still more enigmatic structures embodying helices and toruses and Möbius strips and less familiar geometrical elements; the entire thing some fifty feet tall; flaunting at the top several hundred thin metal plates whose black sides are turned toward the sun?

When you have reached the point of being able to describe it even this crudely, then you *have* apprehended it.

Eventually Darkington saw that the basic structure was repeated, with infinite variation of size and shape; as far as he could see. Some specimens tall and slender, some low and broad, they dominated the hillside. The deeper reaches were made gloomy by their overhang, but sun speckles flew piercingly bright within those shadows as the wind shook the mirror faces of the plates. That same wind made a noise of clanking and clashing and far-off deep-booming, mile after metal mile.

There was no soil, only sand, rusty red and yellow. But outside the circle which had been devastated by the boat's jets, Darkington found the earth carpeted with prismatic growths, a few inches high, seemingly rooted in the ground. He broke one off for closer examination and saw tiny crystals, endlessly repeated, in some transparent siliceous material: like snowflakes and spiderwebs of glass. It sparkled so brightly, making so many rainbows, that he couldn't well study the interior. He could barely make out at the center a dark clump of . . . wires, coils, transistors? No, he told himself, *don't be silly*. He gave it to Frederika, who exclaimed at its beauty.

He himself walked across an open stretch, hoping for a view even vaguely familiar. Where the hillside dropped too sharply to support anything but the crystals—they made it one dazzle of diamonds—he saw eroded contours, the remote white sword of a waterfall, strewn boulders, and a few crags like worn-out obelisks. The land rolled away into blue distances; a snow-capped mountain range guarded the eastern horizon. The sky overhead was darker than in his day, faintly greenish blue, full of clouds. He couldn't look near the fierce big sun.

Kuroki joined him. "What d'you think, Hugh?" the pilot asked.

"I hardly dare say, You?"

"Hell, I can't think with that bloody boiler factory clattering at me." Kuroki grimaced behind his faceplate. "Turn off your sonic mike and let's talk by radio."

Darkington agreed. Without amplification, the noise reached him through his insulated helmet as a far-off tolling. "We can take it for granted," he said, "that none of this is accidental. No minerals could simply crystallize out like this."

"Don't look manufactured to me, though."

"Well," said Darkington, "you wouldn't expect them to turn out their products in anything like a human machine shop."

"Them?"

"Whoever . . . whatever . . . made this. For whatever purpose."

Kuroki whistled. "I was afraid you'd say something like that. But we didn't see a trace of—cities, roads, anything—from orbit. I know the cloudiness made seeing pretty bad, but we couldn't have missed the signs of a civilization able to produce stuff on this scale."

"Why not? If the civilization isn't remotely like anything we've ever imagined?"

Frederika approached, leaving a cartful of instruments behind. "The low and medium frequency radio spectrum is crawling," she reported. "You never heard so many assorted hoots, buzzes, whirrs, squeals, and whines in your life."

"We picked up an occasional bit of radio racket while in orbit," Kuroki nodded. "Didn't think much about it, then."

"Just noise," Frederika said hastily. "Not varied enough to be any kind of . . . of communication. But I wonder what's doing it?"

"Oscillators," Darkington said. "Incidental radiation from a variety of . . . oh, hell, I'll speak plainly . . . machines."

"But—" Her hand stole toward his. Glove grasped glove. She wet her lips. "No, Hugh, this is absurd. How could anyone be capable of making . . . what we see . . . and not have detected us in orbit and . . . and done something about us?"

Darkington shrugged. The gesture was lost in his armor. "Maybe they're biding their time. Maybe they aren't here at the moment. The whole planet could be an automated factory, you know. Like those ocean mineral harvesters we had in our time"—it hurt to say that—"which Sam mentioned on the way down. Somebody may come around periodically and collect the production."

"Where do they come from?" asked Kuroki in a rough tone.

"I don't know, I tell you. Let's stop making wild guesses and start gathering data."

Silence grew between them. The skeleton towers belled. Finally Kuroki nodded.

"Yeah. What say we take a little stroll? We may come on something."

Nobody mentioned fear. They dared not.

Re-entering the boat, they made the needful arrangements. The *Traveler* would be above the horizon for several hours yet. Captain Thurshaw gave his reluctant consent to an exploration on foot. The idea conflicted with his training, but what did survey doctrine mean under these conditions? The boat's director could keep a radio beam locked on the ship and thus relay communication between Earth and orbit. While Kuroki talked, Darkington and Frederika prepared supplies. Not much was needed. The capacitor pack in each suit held charge enough to power thermostat and air renewer for a hundred hours, and they only planned to be gone for three or four. They loaded

two packboards with food, water, and the "buckets" used for such natural functions as eating, but that was only in case their return should be delayed. The assorted scientific instruments they took were more to the point. Darkington holstered a pistol. When he had finished talking, Kuroki put the long tube of a rocket gun and a rackful of shells on his own back. They closed their helmets anew and stepped out.

"Which way?" Frederika asked.

"Due south," Darkington said after studying the terrain. "We'll be following this long ridge, you see. Harder to get lost." There was little danger of that, with the boat emitting a continuous directional signal. Nonetheless they all had compasses on their wrists, and took note of landmarks as they went.

The boat was soon lost to view. They walked among surrealistic rods and frames and spirals, under ringing sheet metal. The crystals crunched beneath their tread and broke sunlight into hot shards of color. But not many rays pushed through the tangle overhead; shadows were dense and restless. Darkington began to recognize unrelated types of structure. They included long, black, seemingly telescopic rods, fringed with thin plates; glassy spheres attached to intricate grids; cables that looped from girder to girder. Frequently a collapsed object was seen crumbling on the ground.

Frederika looked at several disintegrated specimens, examined others in good shape, and said: "I'd guess the most important material, the commonest, is an aluminum alloy. Though . . . see here . . . these find threads embedded in the core must be copper. And this here is probably manganese steel with a protective coating of . . . of . . . something more inert."

Darkington peered at the end of a broken strut through a magnifying glass. "Porous," he said. "Are these actually capillaries to transport water?"

"I thought a capillary was a hairy bug with lots of legs that turned into a butterfly," said Kuroki. He ducked an imaginary fist. "O.K., O.K., somebody's got to keep up morale."

The boat's radio relayed a groan from the monitor aboard the ship. Frederika said patiently, "No, Sam, the legs don't turn into a butterfly—" but then she remembered there would never again be bravely colored small wings on Earth and banged a hand against her faceplate as if she had been about to knuckle her eyes.

Darkington was still absorbed in the specimen he held. "I never heard of a machine this finely constructed," he declared. "I thought nothing but a biological system could—"

"Stop! Freeze!"

Kuroki's voice rapped in their earphones. Darkington laid a hand on his pistol butt. Otherwise only his head moved, turning inside the helmet. After a moment he saw the thing, too.

It stirred among shadows, behind a squat cylinder topped with the usual black-and-mirror plates. Perhaps three feet long, six or eight inches high . . . It came out into plain view. Darkington glimpsed a slim body and six short legs of articulated dull

metal. A latticework swiveled at the front end like a miniature radio-radar beamcaster. Something glinted beadily beneath; twin lenses? Two thin tentacles held a metal sliver off one of the great stationary structures. They fed it into an orifice, and sparks shot back upward—

“Holy Moses,” Kuroki whispered.

The thing stopped in its tracks. The front-end lattice swung toward the humans. Then the thing was off, unbelievably fast. In half a second there was nothing to see.

Nobody moved for almost a minute. Finally Frederika clutched Darkington’s arm with a little cry. The rigidity left him and he babbled of experimental robot turtles in the early days of cybernetic research—very simple gadgets. A motor drove a wheeled platform, steered by a photoelectric unit that approached light sources by which the batteries might be recharged and, when this was done, became negatively phototropic and sought darkness. An elementary feedback circuit. But the turtles had shown astonishing tenacity, had gone over obstacles or even around . . .

“That beast there was a good deal more complicated,” she interrupted.

“Certainly, certainly,” Darkington said. “But—”

“I’ll bet it heard Sam talk on the radio, spotted us with radar—or maybe eyes, if those socketed glass things were eyes—and took off.”

“Very possibly, if you must use anthropomorphic language. However—”

“It was eating that strut.” Frederika walked over to the piece of metal which the runner had dropped. She picked it up and came stiffly back with it. “See, the end has been ground away by a set of coarse emery wheels or something. You couldn’t very well eat alloy with teeth like ours. You have to grind it. Either that or dissolve it in some chemical system.”

“Hey!” Kuroki objected. “Let’s not go completely off the deep end.”

“What’s happened down there?” called the man aboard the *Traveller*.

They resumed walking, in a dreamlike fashion, as they recounted what they had seen. Frederika concluded: “This . . . this arrangement might conceivably be some kind of automated factory—chemosynthetic or something—if taken by itself. But not with beasts like that one running loose.”

“Now wait,” Darkington said. “They could be maintenance robots, you know. Clear away rubbish and wreckage.”

“A science advanced enough to build what we see wouldn’t use such a clumsy system of maintenance,” she answered. “Get off your professional caution, Hugh, and admit what’s obvious.”

Before he could reply, his earphones woke with a harsh jabber. He stopped and tried to tune in—it kept fading out, he heard it only in bursts—but the bandwidth was too great. What he did hear sounded like an electronic orchestra gone berserk. Sweat prickled his skin.

When the sound had stopped: “O.K.,” breathed Kuroki, “you tell me.”

"Could have been a language, I suppose," said Frederika, dry-throated. "It wasn't just a few simple oscillations like that stuff on the other frequencies."

Captain Thurshaw himself spoke from the orbiting ship. "You better get back to the boat and sit prepared for quick blastoff."

Darkington found his nerve. "No, sir. If you please. I mean, uh, if there are intelligences . . . if we really do want to contact them . . . now's the time. Let's at least make an effort."

"Well—"

"We'll take you back first, of course, Freddie."

"Nuts," said the girl. "I-stay right here."

Somehow they found themselves pushing on. Once, crossing an open spot where only the crystals stood, they spied something in the air. Through binoculars, it turned out to be a metallic object shaped vaguely like an elongated manta. Apparently it was mostly hollow, upborne by air currents around the fins and propelled at low speed by a gas jet. "Oh, sure," Frederika muttered. "Birds."

They re-entered the area of tall structures. The sonic amplifiers in their helmets were again tuned high, and the clash of plates in the wind was deafening. Like a suit of armor, Darkington thought idiotically. Could be a poem in that. Empty armor on a wild horse, rattling and tossing as it was galloped down an inexplicably deserted city street—symbol of . . .

The radio impulses that might be communication barked again in their earphones. "I don't like this," Thurshaw said from the sky. "You're dealing with too many unknowns at once. Return to the boat and we'll discuss further plans."

They continued walking in the same direction, mechanically. *We don't seem out of place here ourselves, in this stiff cold forest,* Darkington thought. *Let's turn around. Let's assert our dignity as organic beings. We aren't mounted on rails!*

"That's an order," Thurshaw stated.

"Very well, sir," Kuroki said. "And, uh, thanks."

The sound of running halted them. They whirled. Frederika screamed.

"What's the matter?" Thurshaw shouted. "What's the matter?" The unknown language ripped across his angry helplessness.

Kuroki yanked his rocket gun loose and put the weapon to his shoulder. "Wait!" Darkington yelled. But he grabbed at his own pistol. The oncomer rushed in a shower of crystal splinters, whipping rods and loops aside. Its gigantic weight shuddered in the ground.

Time slowed for Darkington, he had minutes or hours to tug at his gun, hear Frederika call his name, see Kuroki take aim and fire. The shape was mountainous before him. Nine feet tall, he estimated in a far-off portion of his rocking brain, three yards of biped four-armed monstrosity, head horned with radio lattice, eyes that threw back sunlight in a blank glitter, grinder orifice and— The rocket exploded. The thing lurched and half fell. One arm was in ruins.



"Ha!" Kuroki slipped a fresh shell into his gun. "Stay where you are, you!"

Frederika, wildly embracing Darkington, found time to gasp, "Sam, maybe it wasn't going to do any harm," and Kuroki snapped, "Maybe it was. Too big to take chances with." Then everything smashed.

Suddenly the gun was knocked spinning by a hurled iron bar they hadn't even noticed. And the giant was among them. A swat across Kuroki's back shattered his radio and dashed him to earth. Flame spat and Frederika's voice was cut short in Darkington's receivers.

He pelted off, his pistol uselessly barking. "Run, Freddie!" he bawled into his sonic microphone. "I'll try and—" the machine picked him up. The pistol fell from his grasp. A moment later, Thurshaw's horrified oaths were gone: Darkington's radio antenna had been plucked out by the roots. Frederika tried to escape, but she was snatched up just as effortlessly. Kuroki, back on his feet, stood where he was and struck with ludicrous fists. It didn't take long to secure him either. Hog-tied, stuffed into a rack on the shoulders of the giant, the three humans were borne off southward.

#### IV

At first Zero almost ran. The monster must have known where its auxiliaries were and something of what had happened to them. Now that contact was broken, it might send forth others to look for them, better armed. Or it might even come itself, roaring and burning through the forest. Zero fled.

Only the monster's voice, raggedly calling for its lost members, pursued him. After a few miles he crouched in a road clump and strained his receptors. Nothing was visible but thickly growing accumulators and bare sky. The monster had ceased to shout. Though it still emitted an unmodulated signal, distance had dwindled this until the surrounding soft radio noise had almost obliterated that hum.

The units Zero had captured were making considerable sound-wave radiation. If not simply the result of malfunction in their damaged mechanism, it must be produced by some auxiliary system which they had switched on through interior control. Zero's sound receptors were not sensitive enough to tell him whether the emission was modulated. Nor did he care. Certain low forms of motile were known to have well-developed sonic parts, but anything so limited in range was useless to him except as a warning of occurrences immediately at hand. A person needed many square miles to support himself. How could there be a community of persons without the effortless ability to talk across trans-horizon distances?

Irrelevantly, for the first time in his century and a half of existence, Zero realized how few persons he had ever observed with his own direct optics. How few he had touched. Now and then, for this or that purpose, several might get together. A bride's male kin assisted her on her journey to the groom's dwelling. Individuals met to exchange the products of their labor. But still—this rally of all functional males at Broken Glade, to hunt the monster, would be the greatest assemblage in tradition. Yet not even Hundred had grasped its uniqueness.

For persons were always communicating. Not only practical questions were discussed. In fact, now that Zero thought about it, such problems were the least part of discourse. The major part was ritual, or friendly conversation, or art. Zero had seldom met Seven as a physical entity, but the decades in which they criticized each other's poetry had made them intimate. The abstract tone constructions of Ninety-six, the narratives of Eighty, the speculations about space and time of Fifty-nine—such things belonged to all.

Direct sensory linkage, when the entire output of the body was used to modulate the communication band, reduced still further the need for physical contact. Zero had never stood on the seashore himself. But he had shared consciousness with Fourteen, who lived there. He had perceived the slow inward movement of waves, their susurrus, the salt in the air; he had experienced the smearing of grease over his skin to protect it from corrosion, drawing an aquamotile from a net and feasting. For those hours, he and the searaker had been one. Afterward he had shown Fourteen the upland forest . . .

*What am I waiting for?* Consciousness of his here-and-now jarred back into Zero. The monster had not pursued. The units on his back had grown quiescent. But he was still a long way from home. He rose and started off again, less rapidly but with more care to obliterate his traces.

As the hours passed, his interior sensors warned him increasingly of a need for replenishment. About midday he stopped and unloaded his three prizes. They were feebly squirming and one of them had worked an arm loose. Rather than lash them tight again, he released their limbs and secured them by passing the rope in successive loops around their middles and a tall stump, then welding everything fast with his torch.

That energy drain left him ravenous. He scouted the forest in a jittery spiral until he found some accumulators of the calathiform sort. A quick slash with his pry bar exposed their spongy interiors, rich with energy storage cells and mineral salts. They were not very satisfying eaten unprocessed, but he was too empty to care. With urgency blunted, he could search more slowly and thoroughly. Thus he found the traces of a burrow, dug into the sand, and came upon a female digger. She was heavy with a half-completed new specimen and he caught her easily. This, too, would have been better if treated with heat and acid, but even raw the materials tasted good in his grinder.

Now to get something for One. Though she, better than he, could slow down her functioning when nourishment was scarce, a state of coma while the monster was abroad could be dangerous. After hunting for another hour, Zero had the good luck to start a rotor. It crashed off among the rods and crystals, faster than he could run, but he put a crossbow bolt through its hub. Dismembered and packed into his carrier, it made an immensely cheering burden.

He returned to his prizes. Moving quietly in comparison to the windy clatter of the forest, he came upon them unobserved. They had quit attempting to escape—he saw the wire was shiny where they had tried to saw it on a sharp rock—and were busy with other tasks. One of them had removed a boxlike object from its back and inserted its head (?) and arms through gasketed holes. A second was just removing a similar box from its lower section. The third had plugged a flexible tube from a bottle into its face.

Zero approached. "Let me inspect those," he said, before thinking how ridiculous it was to address them. They shrank away from him. He caught the one with the bottle and unplugged the tube. Some liquid ran out. Zero extended his chemical sensor and tasted cautiously. Water. Very pure. He did not recall ever having encountered water so free of dissolved minerals.

Thoughtfully, he released the unit. It stoppered the tube. So, Zero reflected, they required water like him, and carried a supply with them. That was natural; they—or, rather, the monster they served—could not know where the local springs and streams were. But why did they suck through a tube? Did they lack a proper liquid-ingestion orifice? Evidently. The small hole in the head, into which the tube had fitted, had automatically closed as the nipple was withdrawn.

The other two had removed their boxes. Zero studied these and their contents. There were fragments of mushy material in both, vaguely similar to normal body sludge. Nourishment or waste? Why such a clumsy system? It was as if the interior mechanism must be absolutely protected from contact with the environment.

He gave the boxes back and looked more thoroughly at their users. They were not quite so awkward as they seemed at first. The humps on their backs were detachable carriers like his. Some of the objects dangling at their waists or strapped to their arms must also be tools. (Not weapons or means of escape, else they would have used them before now. Specialized artificial attachments, then, analogous to a torch or a surgical ratchet.) The basic bipedal shape was smoother than his own, nearly featureless except for limb joints. The head was somewhat more complicated, though less so than a person's. Upon the cylindrical foundation grew various parts, including the sound-wave generators which babbled as he stood there watching. The face was a glassy plate, behind which moved . . . what? Some kind of jointed, partly flexible mechanism.

There was no longer any possibility of radio communication with—or through—them. Zero made a few experimental gestures, but the units merely stirred about. Two of them embraced. The third waved its arms and made sonic yelps. All at once it squatted and drew geometrical shapes in the sand, very much like the courtship figures drawn by a male dunerunner.

So . . . they not only had mechanical autonomy, like the spy eyes of a boxroller, but were capable of some independent behavior. They were more than simply remote-control limbs and sensors of the monster. Most probably they were domesticated motiles.

But if so, then the monster race had modified their type even more profoundly than the person race had modified the type of its own tamed motiles down in the lowlands. These bipeds were comically weak in proportion to size; they lacked grinders and liquid-ingestion orifices; they used sonics to a degree that argued their radio abilities were primitive; they required ancillary apparatus; in short, they were not functional by themselves. Only the care and shelter furnished by their masters allowed them to remain long in existence.

*But what are the masters? Even the monster may well be only another motile. Certainly it appeared to lack limbs. The masters may be persons like us, come from beyond the sea or the mountains with great new skills.*

*But then what do they want? Why have they not tried to communicate with us? Have they come to take our land away?*

The question was jolting. Zero got hastily into motion. With his rack loaded, he had no room for his prizes. Besides, being crammed into it for hours was doubtless harinful to them; they moved a good deal more strongly now, after a rest, than when he first took them out. He simply left them tied together, cut the wire loose from the stump, and kept that end in one hand. Since he continued to exercise due caution about leaving a trail, he did not move too fast for them to keep up. From time to time they would stagger and lean on each other for support—apparently their energy cells polarized more quickly than his—but he found they could continue if he let them pause a while, lie down, use their curious artifacts.

The day passed. At this time of year not long past the vernal equinox, the sun was up for about twenty hours. After dark, Zero's captives began stumbling and groping. He confirmed by direct sense perception that they had no radar. If they ever did, that part had been wrecked with their communicators. After some thought, he fashioned a rough seat from a toppled bole and nudged them to sit upon it. Thus he carried them in two hands. They made no attempt to escape, emitted few sounds, obviously they were exhausted. But to his surprise, they began to stir about and radiate sonics when he finally reached home and set them down. He welded the end of their rope to an iron block he kept for emergencies.

Part of him reflected that their mechanism must be very strange indeed, maybe so strange that they would not prove ingestible. Obviously their cells went to such extremes of polarization that they became comatose, which a person only did in emergencies. To them, such deactivation appeared to be normal, and they roused spontaneously.

He dismissed speculation. One's anxious voice had been rushing over him while he worked. "What has happened? You are hurt! Come closer, let me see, oh, your poor arm! Oh, my dear!"

"Nothing serious," he reassured her. "I shot a rotor. Prepare yourself a meal before troubling about me."

He lowered himself to the cave floor beside her great beautiful bulk. The glow globes, cultivated on the rough stone walls, shed luster on her skin and on the graceful tool tendrils that curled forth to embrace him. His chemical sensor brought him a hint of solvents and lubricants, an essence of femaleness. The cave mouth was black with night, save where one star gleamed bright and somehow sinister above the hills. The forest groaned and tolled. But here he had light and her touch upon his body. He was home.

She unshipped the rack from his shoulders but made no motion toward the food-processing cauldron. Most of her tools and all her attention were on his damaged arm. "We must replace everything below the elbow," she decided; and as a modulation: *"Zero, you brave clever adored fool, why did you hazard yourself like that? Do you not understand, even yet, without you my world would be rust?"*

"I am sorry . . . to take so much from the new one," he apologized.

"No matter. Feed me some more nice large rotors like this and I will soon replace the loss, and finish all the rest, too." Her mirth fluttered toward shyness. "I want the new one activated soon myself, you know, so we can start another."

The memory of that moment last year, when his body pattern flowed in currents and magnetic fields through hers, when the two patterns heterodyned and deep within her the first crystallization took place, glowed in him. Sensory linkage was a wan thing by comparison.

What they did together now had a kindred intimacy. When she had removed the ruined forearm and he had thrust the stump into her repair orifice, a thousand fine interior tendrils enfolded it, scanning, relaying, and controlling. Once again, more subtly than in reproduction, the electro-chemical-mechanical systems of One and Zero unified. The process was not consciously controllable; it was a female function. One was at this moment no different from the most primitive motile joined to her damaged mate in a lightless burrow.

It took time. The new person which her body was creating within itself was, of course, full size and, as it happened, not far from completion. (Had the case been otherwise, Zero would have had to wait until the new one did in fact possess a well-developed arm.) But it was not yet activated; its most delicate and critical synaptic pathways were still only half finished, gradually crystallizing out of solution. A part could not lightly nor roughly be removed.

But in the end, One's functions performed the task. Slowly, almost reluctantly, Zero withdrew his new hand. His mind and hers remained intertwined a while longer. At last, with a shaky little overtone of humor, she exclaimed, "Well, how do your fingers wiggle? Is everything good? Then let us eat. I am famished!"

Zero helped her prepare the rotor for consumption. They threw the damaged forearm into the cauldron, too. While they processed and shared the meal, he recounted his experiences. She had shown no curiosity about the three bipeds. Like most females, she lacked any great interest in the world beyond her home, and had merely assumed

they were some new kind of wild motile. As he talked, the happiness died in her. "Oh, no," she said, "You are not going out to fight the lightning breather, are you?"

"Yes, we must." He knew what image terrified her, himself smashed beyond hope of reconstruction, and added in haste: "If we leave it free, no tradition or instinct knows what it may do. But surely at the very least, so large a thing will cause extensive damage. Even if it is only a grazer, its appetite will destroy untold acres of accumulators; and it may be a predator. On the other hand, if we destroy it, what a hoard of nourishment! Your share and mine will enable us to produce a dozen new persons. The energy will let me range for hundreds of miles, thus gaining still more food and goods for us."

"If the thing can be assimilated," she said doubtfully. "It could be full of hydrofluoric acid or something, like a touch-me-not."

"Yes, yes. For that matter, the flier may be the property of intelligent beings: which does not necessarily mean we will not destroy and consume it. I intend to find out about that aspect right now. If the monster's auxiliaries are ingestible, the monster itself is almost sure to be."

"But if not— Zero, be careful!"

"I will. For your sake also." He stroked her and felt an answering vibration. It would have been pleasant to sit thus all night, but he must soon be on his way to rendezvous. And first he must dissect at least one specimen. He took up his pry bar.

## V

Darkington awoke from a nightmare-ridden half sleep when he was dumped on the cave floor. He reached for Frederika and she came to him. For a space there was nothing but their murmuring.

Eventually they crouched on the sand and looked about. The giant that captured them had welded the free end of the wire rope to an immovable chunk of raw iron. Darkington was attached at that side, then the girl, and Kuroki on the outer end. They had about four feet of slack from one to the next. Nothing in the kit remaining to them would cut those strands.

"Limestone cave, I guess," Kuroki croaked. Behind the faceplate he was gaunt, bristly, and sunken-eyed. Frederika didn't look much better. They might not have survived the trip here if the robot hadn't carried them the last few hours. Nonetheless an odd dry clarity possessed Darkington's brain. He could observe and think as well as if he had been safe on shipboard. His body was one enormous ache, but he ignored that and focused on comprehending what had happened.

Here near the entrance, the cave was about twenty feet high and rather more wide. A hundred feet deeper inward, it narrowed and ended. That area was used for storage: a junk shop of mechanical and electronic parts, together with roughly fashioned metal and stone tools that looked almost homelike. The walls were overgrown with thin wires that sprouted scores of small crystalline globes. These gave off a cool white light that made the darkness outside appear the more elemental.

"Yes, a cave in a sheer hillside," said Frederika. "I saw that much. I kept more or less conscious all the way here, trying to keep track of our route. Not that that's likely to do us much good, is it?" She hugged her knees. "I've got to sleep soon . . . oh, but I have to sleep!"

"We have to get in touch." Kuroki's voice rose. (Thank heaven and some age-dead engineer that sound mikes and earphones could be switched on by shoving your chin against the right button! With talk cut off, no recourse would have remained but to slip quietly into madness.) "I tried to show that tin nightmare we're intelligent. I drew diagrams and—" He checked himself. "Well, probably its builders don't monitor it. We'll have another go when they show up."

"Let's admit the plain facts, Sam," Frederika said tonelessly. "There aren't any builders. There never were any."

"Oh, no." The pilot gave Darkington a beggar's look. "You're the biologist, Hugh. Do you believe that?"

Darkington bit his lip. "I'm afraid she's right."

Frederika's laugh barked at them. "Do you know what that big machine is, there in the middle of the cave? The one the robot is fooling around with? I'll tell you. His wife!" She broke off. Laughter echoed too horribly in their helmets.

Darkington gazed in that direction. The second object had little in common with the biped shape, being low and wide—twice the bulk—and mounted on eight short legs which must lend very little speed or agility. A radio lattice, optical lenses, and arms—two, not four—were similar to the biped's. But numerous additional limbs were long goosenecks terminating in specialized appendages. Sleek blued metal covered most of the body.

And yet, the way those two moved—

"I think you may be right about that also," Darkington said at last.

Kuroki beat the ground with his fist and swore. "Sorry, Freddie," he gulped. "But won't you explain what you're getting at? This mess wouldn't be so bad if it made some sense."

"We can only guess," Darkington said.

"Well, guess, then!"

"Robot evolution," Frederika said. "After man was gone, the machines that were left began to evolve."

"No," said Kuroki, "that's nuts. Impossible!"

"I think what we've seen would be impossible any other way," Darkington said. "Metallic life couldn't arise spontaneously. Only carbon atoms make the long hookups needed for the chemical storage of biological information. But electronic storage is equally feasible. And . . . before the *Traveler* departed . . . self-reproducing machines were already in existence."

"I think the sea rafts must have been the important ones," Frederika spoke like someone in a dream. Her eyes were fixed wide and unblinking on the two robots.



"Remember? They were essentially motorized floating boxes, containing metallurgic processing plants and powered by solar batteries. They took dissolved minerals out of sea water, magnesium, uranium, whatever a particular raft was designed for. When it had a full cargo, it went to a point on shore where a depot reached its load. Once empty, it returned to open waters for more. It had an inertial navigation device, as well as electronic sensors and various homeostatic systems, so it could cope with the normal vicissitudes of its environment.

"And it had electronic templates which bore full information on its own design. They controlled mechanisms aboard, which made any spare part that might be needed. Those same mechanisms also kept producing and assembling complete duplicate rafts. The first such outfit cost hundreds of millions of dollars to manufacture, let alone the preliminary research and development. But once made, it needed no further investment. Production and expansion didn't cost anyone a cent.

"And after man was gone from Earth . . . all life had vanished . . . the sea rafts were still there, patiently bringing their cargoes to crumbling docks on barren shores, year after year after meaningless year—"

She shook herself. The motion was violent enough to be seen in armor. "Go on, Hugh," she said, her tone turned harsh. "If you can."

"I don't know any details," he began cautiously. "You should tell me how mutation was possible to a machine. But if the templates were actually magnetic recordings on wire or tape, I expect that hard radiation would affect them, as it affects an organic gene. And for a while there was certainly plenty of hard radiation around. The rafts started making imperfect duplicates. Most were badly designed and, uh, foundered. Some, though, had advantages. For instance, they stopped going to shore and hanging about for decades waiting to be unloaded. Eventually some raft was made which had the first primitive ability to get metal from a richer source than the ocean: namely, from other rafts. Through hundreds of millions of years, an ecology developed. We might as well call it an ecology. The land was reconquered. Wholly new types of machine proliferated. Until today, well, what we've seen."

"But where's the energy come from?" Kuroki demanded.

"The sun, I suppose. By now, the original solar battery must be immensely refined. I'd make a guess at dielectric storage on the molecular level, in specialized units—call them cells—which may even be of microscopic size. Of course, productivity per acre must be a good deal lower than it was in our day. Alloys aren't as labile as amino acids. But that's offset to a large extent by their greater durability. And, as you can see in this cave, by interchangeability."

"Huh?"

"Sure. Look at those spare parts stacked in the rear. Some will no doubt be processed, analogously to our eating and digesting food. But others are probably being kept for use as such. Suppose you could take whole organs from animals you killed



and install them in yourself to replace whatever was wearing out. I rather imagine that's common on today's Earth. The 'black box' principle was designed into most machines in our own century. It would be inherited."

"Where does the metal come from in the first place?"

"From lower types of machine. Ultimately from sessile types that break down ores, manufacture the basic alloys, and concentrate more dielectric energy than they use. Analogous to vegetation. I daresay the, uh, metabolism involves powerful reagents. Sulfuric and nitric acids in glass-lined compartments must be the least of them. I doubt if there are any equivalent of microbes, but the ecology seems to manage quite well without. It's a grosser form of existence than ours. But it works. It works."

"Even sex." Frederika giggled a little crazily.

Darkington squeezed her gauntleted hand until she grew calmer. "Well," he said, "quite probably in the more complex machines, reproduction has become the specialty of one form, while the other specializes in strength and agility. I daresay there are corresponding psychological differences."

"Psychological?" Kuroki bridled. "Wait a minute! I know there is . . . was . . . a lot of loose talk about computers being electronic brains and such rot, but—"

"Call the phenomenon what you like," Darkington shrugged. "But that robot uses tools which are made, not grown. The problem is how to convince it that we think."

"Can't it see?" Frederika exclaimed. "We use tools, too. Sam drew mathematical pictures. What more does it want?"

"I don't know enough about this world to even guess," Darkington said tiredly. "But I suppose . . . well . . . we might once have seen a trained ape doing all sorts of elaborate things, without ever assuming it was more than an ape. No matter how odd it looked."

"Or maybe the robot just doesn't give a damn," Kuroki said. "There were people who wouldn't have."

"If Hugh's guess about the 'black box' is right," Frederika added slowly, "then the robot race must have evolved as hunters; instead of hunting being invented rather late in their evolution. As if men had descended from tigers instead of simians. How much psychological difference would that make?"

No one replied. She leaned forlornly against Darkington. Kuroki turned his eyes from them, perhaps less out of tact than loneliness. His girl was several thousand miles away, straight up, with no means for him to call her and say good-by.

Thurshaw had warned the insistent volunteers for this expedition that there would be no rescue. He had incurred sufficient guilt in letting three people—three per cent of the human race—risk themselves. If anything untoward happened, the *Traveler* would linger a while in hopes the boat could somehow return. But in the end the *Traveler* would head for the stars. Kuroki's girl would have to get another father for the boy she might name Sam.

*I wish Freddie were up there with her, Darkington thought. Or do I? Isn't that simply what I'm supposed to wish?*

*Cut that out. Start planning!*

His brain spun like wheels in winter mud. What to do, what to do, what to do? His pistol was gone, so were Kuroki's rockets; nothing remained but a few tools and instruments. At the back of the cave there were probably stored some weapons with which a man could put up a moment's fight. (Only a moment, against iron and lightning; but that would end the present, ultimate horror, of sitting in your own fear-stink until the monster approached or the air renewal batteries grew exhausted and you strangled.) The noose welded around his waist, ending in a ton of iron, choked off any such dreams. They must communicate, somehow, anyhow, plead, threaten, promise, wheedle. But the monster hadn't cared about the Pythagorean theorem diagrammed in sand. What next, then? How did you say, "I am alive" to something that was not alive?

Though what was aliveness? Were proteins inherently and unescapably part of any living creature? If the ancient sea rafts had been nothing except complicated machines, at what point of further complication had their descendants come to life? *Now stop that, you're a biologist, you know perfectly well that any such question is empirically empty and anyhow it has nothing to do with preserving the continuity of certain protein chemisries which are irrationally much loved.*

"I think it talks by radio." Kuroki's slow voice sounded oddly through the thudding in Darkington's head. "It probably hasn't got any notion that sound waves might carry talk. Maybe it's even deaf. Ears wouldn't be any too useful in that rattletrap jungle. And our own radios are busted." He began to fumble in the girl's pack. "Freddie, I think I would cobble together one working set from the pieces of our three, if I can borrow some small tools and instruments. Once we make systematic noises on its talk band, the robot might get interested in trying to savvy us."

He began to lay out the job. Darkington, unable to help, ashamed that he had not thought of anything, turned attention back to the robots. They were coupled together, ignoring him.

Frederika dozed off. How slowly the night went. But Earth was old, rotating as wearily as . . . as himself. He slept.

A gasp awoke him.

The monster stood above them. Tall, tall, higher than the sky, it bestrode their awareness and looked down with blank eyes upon Kuroki's pitiful barely-begun work. One hand was still a torch and another hand had been replaced; it was invulnerable and soulless as a god. For an instant Darkington's half-aroused self groveled before it.

Then the torch spat, slashed the wire rope across, and Kuroki was pulled free.

Frederika cried out, "Sam!"

"Not . . . so eager . . . pal," the pilot choked in the robot's arms. "I'm glad you like me, but . . . ugh . . . careful!"

With a free hand, the robot twisted experimentally at Kuroki's left leg. The suit joints turned. Kuroki shrieked. Darkington thought he heard the leg bones leave their sockets.

"No! You filthy machine!" He plunged forward. The rope stopped him cold. Frederika covered her faceplate and begged Kuroki to be dead.

He wasn't, yet. He wasn't even unconscious. He kept on screaming as the robot used a prying tool to drag the leg off his armor. Leakseal compound flowed from between the fabric layers and preserved the air in the rest of his suit.

The robot dropped him and sprang back, frantically fanning itself. A whiff of oxygen, Darkington realized amidst the red and black disintegration of his sanity. Oxygen was nearly as reactive as fluorine, and there had been no free oxygen on Earth since—Kuroki's agony jerked toward silence.

The robot reapproached with care, squatted above him, poked at the exposed flesh, tore loose a chunk for examination and flung it aside. The metal off a joint seemed better approved.

Darkington realized vaguely that Frederika lay on the ground close to Kuroki and wept. The biologist himself was even nearer. He could have touched the robot as well as the body. Instead, though, he retreated, mumbling and mewling.

The robot had clearly learned a lesson from the gas, but was just as clearly determined to go on with the investigation. It stood up, moved a cautious distance away, and jetted a thin, intensely blue flame from its torch hand. Kuroki's corpse was divided across the middle.

Darkington's universe roared and exploded. He lunged again. The rope between him and Frederika was pulled across the fire beam. The strands parted like smoke.

The robot pounced at him, ran into the oxygen gushing from Kuroki's armor, and lurched back. Darkington grabbed the section of rope that joined him to the block. The torch was too bright to look at. If he touched its flame, that was the end of him, too. But there was no chance to think about such matters. Blindly and animally, he pulled his leash across the cutting jet.

He was free.

"Get out, Freddie!" he coughed, and ran straight toward the robot. No use trying to run from a thing that could overtake him in three strides. The torch had stopped spitting fire, but the giant moved in a wobbly, uncertain fashion, still dazed by the oxygen. By pain? Savagely in the last spark of awareness, Darkington hoped so. "*Get out, Freddie!*"

The robot staggered in pursuit of him. He dodged around the other machine, the big one that they had called female. To the back of the cave. A weapon to fight with, gaining a moment where Frederika might escape. An extra pry bar lay on the floor. He snatched it and whirled. The huge painted shape was almost upon him.

He dodged. Hands clashed together just above his helmet. He pelted back to the

middle of the cave. The female machine was edging into a corner. But slow, awkward—

Darkington scrambled on top of it.

An arm reached from below to pluck him off. He snarled and struck with the pry bar. The noise rang in the cave. The arm sagged, dented. This octopod had nothing like the biped's strength. Its tool tendrils, even more frail, curled away from him.

The male robot loomed close. Darkington smashed his weapon down on the radio lattice at his feet. It crumpled. He brandished the bar and howled senselessly, "Stand back, there! One step more and I'll give her the works! I'll kill her!"

The robot stopped. Monstrous it bulked; an engine that could tear apart a man and his armor, and raised its torch hand.

"Oh, no," Darkington rasped. He opened a bleeder valve on his suit, kneeling so the oxygen would flow across the front end of the thing on which he rode. Sensors ought to be more vulnerable than skin. He couldn't hear if the she-robot screamed as Kuroki had done. That would be on the radio band. But when he gestured the male back, it obeyed.

"Get the idea?" he panted, not as communication but as hatred. "You can split my suit open with your flame gun, but my air will pour all over this contraption here. Maybe you could knock me off her by throwing something, but at the first sign of any such move on your part, I'll open my bleeder valve again. She'll at least get a heavy dose of oxy. And meanwhile, I'll punch the sharp end of this rod through one of those lenses. Understand? Well, then, stay where you are, machine!"

The robot froze.

Frederika came near. She had slipped the loop of cable joining her to Kuroki off what was left of his torso. The light shimmered on her faceplate so Darkington couldn't see through, and her voice was strained out of recognition. "Hugh, oh, Hugh!"

"Head back to the boat," he ordered. Rationality was returning to him.

"Without you? No."

"Listen, this is not the place for grandstand heroics. Your first duty is to become a mother. But what I hope for, personally, is that you can return in the boat and fetch me. You're no pilot, but they can instruct you by radio from the ship if she's above the horizon. The general director does most of the work in any event. You land here, and I can probably negotiate a retreat for myself."

"But . . . but . . . the robot needed something like twenty hours to bring us here. And it knew the way better than I do. I'll have to go by compass and guess, mostly. Of course, I won't stop as often as it did. No more than I have to. But still . . . say twenty hours for me . . . you can't hold out that long!"

"I can try," he said. "You got any better ideas?"

"All right, then. Good-by, Hugh. No, I mean so long. I love you."

He grunted some kind of answer, but didn't see her go. He had to keep watching the robot.

## VI

"Zero!" his female called, just once, when the unit sprang upon her back. She clawed at it. The pry bar smashed across her arm. He felt the pain-surge within her sensors, broadcast through her communicator, like a crossbow bolt in his body.

Wildly, he charged. The enemy unit crashed the bar down on One's lattice. She shrielled in anguish. Affected by the damage that crippled her radar, her communicator tone grew suddenly, hideously different. Zero slammed himself to a halt.

Her sobbing, his own name blindly repeated, overwhelmed the burning in him where the corrosive gas had flowed. He focused his torch to narrow beam and took careful aim.

The unit knelt, fumbling with its free hand. One screamed again, louder. Her tendrils flailed about. Numbly, Zero let his torch arm droop. The unit rose and poised its weapon above her lenses. A single strong thrust downward through the glass could reach her brain. The unit gestured him back. He obeyed.

"Help," One cried. Zero could not look at the wreckage of her face. There was no escaping her distorted voice. "Help, Zero. It hurts so much."

"Hold fast," he called in his uselessness. "I cannot do anything. Not now. The thing is full of poison. That is what you received." He managed to examine his own interior perceptions. "The pain will abate in a minute . . . from such a small amount. But if you got a large dose—I do not know. It might prove totally destructive. Or the biped might do ultimate mechanical damage before I could prevent it. Hold fast, One mine. Until I think of something."

"I am afraid," she rattled. "For the new one."

"Hold fast," he implored. "If that unit does you any further harm, I will destroy it slowly. I expect it realizes as much."

The other functional biped came near. It exchanged a few ululations with the first, turned and went quickly from the cave. "It must be going back to the flying monster," said One. The words dragged from her, now and then she whimpered as her perceptions of damage intensified, but she could reason again. "Will it bring the monster here?"

"I cannot give chase," said Zero unnecessarily. "But—" He gathered his energy. A shout blasted from his communicator. "*Alarm, alarm! All persons receiving, prepare to relay. Alarm!*"

Voices flashed in his head, near and far, and it was as if they poured strength into him. He and One were not alone in a night cave, a scuttling horror on her back and the taste of poison only slowly fading. Their whole community was here.

He reported the situation in a few phrases. "You have been rash," Hundred said, shaken. "May there be no further penalties for your actions."

"What else would you have had him do?" defended Seven. "We cannot deal randomly with a thing as powerful as the monster. Zero took upon himself the hazards of gathering information. Which he has succeeded in, too."

"Proving the danger is greater than we imagined," shuddered Sixteen.

"Well, that is a valuable datum."

"The problem now is, what shall we do?" Hundred interrupted. "Slow though you say it is, I expect the auxiliary that escaped can find the monster long before we can rendezvous and get up into the hills."

"Until it does, though, it cannot communicate, its radio being disabled," Zero said. "So the monster will presumably remain where it is, ignorant of events. I suggest that those persons who are anywhere near this neighborhood strike out directly toward that area. They can try to head off the biped."

"You can certainly capture it in a few minutes," Hundred said.

"I cannot leave this place."

"Yes, you can. The thing that has seized your female will not logically do anything more to her, unprovoked, lest she lose her present hostage value."

"How do you know?" Zero retorted. "In fact, I believe if I captured its companion, this unit would immediately attack One. What hope does it have except in the escape of the other, that may bring rescue?"

"Hope is a curious word to use in connection with an elaborated spy eye," Seven said.

"If it is," Zero said. "Their actions suggest to me that these bipeds are more than unthinking domesticated motiles."

"Let be!" Hundred said. "There is scant time to waste. We may not risk the entire community for the sake of a single member. Zero, go fetch back that biped."

Unmodulated radio buzzed in the night. Finally Zero said, "No." One's undamaged hand reached toward him, but she was too far away for them to touch each other. Nor could she caress him with radar.

"We will soon have you whole again," he murmured to her. She did not answer, with the community listening.

Hundred surrendered, having existed long enough to recognize unbendable negation. "Those who are sufficiently near the monster to reach it before dawn, report," he directed. When they had finished—about thirty all told—he said, "Very well, proceed there. Wherever feasible, direct your course to intercept the probable path of the escaped unit. If you capture it, inform us at once. The rest of us will rendezvous as planned."

One by one the voices died out in the night, until only Hundred, who was responsible, and Seven, who was a friend, were in contact with Zero. "How are you now, One?" Seven asked gently.

"I function somewhat," she said in a tired, uneven tone. "It is strange to be radar-blind. I keep thinking that heavy objects are about to crash into me. When I turn my optics that way, there isn't anything." She paused. "The new one stirred a little bit

just now. A motor impulse pathway must have been completed. Be careful, Zero," she begged.

"I cannot understand your description of the biped's interior," Hundred said practically. "Soft, porous material soaked in sticky red liquid; acrid vapors— How do they work? Where is the mechanism?"

"They are perhaps not functional at all," Seven proposed. "They may be purely artificial devices, powered by chemical action."

"Yet they act intelligently," Zero argued. "If the monster—or the monster's masters—do not have them under direct control—and certainly there is no radio involved . . ."

"There may be other means than radio to monitor an auxiliary," Seven said. "We know so little, we persons."

"In that case," Zero answered, "the monster has known about this cave all the time. It is watching me at this moment, through the optics of that thing on One's back."

"We must assume otherwise," Hundred said.

"I do," Zero said. "I act in the belief that these bipeds are out of contact with the flier. But if nevertheless they perform as they have been doing, then they certainly have independent function, including at least a degree of intelligence." A thought crashed through him, so stunning that he could not declare it at once. Finally: "They may be the monster's masters! It may be the auxiliary, they the persons!"

"No, no, that is impossible," Hundred groaned. Seven's temporary acceptance was quicker; he had always been able to leap from side to side of a discussion. He flashed:

"Let us assume that in some unheard-of fashion, these small entities are indeed the domesticators, or even the builders, of that flying thing. Can we negotiate with them?"

"Not after what has happened," Zero said bleakly. He was thinking less about what he had done to them than what they had done to One.

Seven continued: "I doubt it myself, on philosophical grounds. They are too alien. Their very functioning is deadly: the destruction wrought by their flier, the poison under their skins. Eventually, a degree of mutual comprehension may be achieved. But that will be a slow and painful process. Our first responsibility is to our own form of existence. Therefore we must unmistakably get the upper hand, before we even try to talk with them." In quick excitement, he added, "And I think we can."

Zero and Hundred meshed their intellects with his. The scheme grew like precipitation in a supersaturated pond. Slow and feeble, the strangers were only formidable by virtue of highly developed artifacts—or, possibly, domesticated motiles of radically modified type—the flier, the tube which had blown off Zero's arm, and other hypothetical weapons. But armament unused is no threat. If the flier could be immobilized—

Of course, presumably there were other dwarf bipeds inside it. Their voices had

been heard yesterday. But Zero's trip here had proven that they lacked adequate nighttime senses. Well, grant them radar when in an undamaged condition. Radar can be confused, if one knows how.

Hundred's orders sprang forth across miles to the mountaineers now converging on the flier: "Cut the heaviest accumulator strands you can find in the forest. Twist them into cables. Under cover of darkness, radar window, and distraction objects, surround the monster. We believe now that it may not be sentient, only a flier. Weld your cables fast to deeply founded boles. Then, swiftly, hook them around the base of the flier. Tie it down!"

"No," said Twenty-nine, aghast. "We cannot weld the cables to its skin. It would annihilate us with one jetblast. We would have to make nooses first and—"

"So make the nooses," Zero said. "The monster is not a perfectly tapered spindle. The jets bulge out at the base. Slip the nooses around the body just above the jets. I hardly think it can rise then, without tearing its own tubes out."

"Easy for you to say, Zero, safe in your cave."

"If you knew what I would give to have matters otherwise—"

Abashed, the hunters yielded. Their mission was not really so dangerous. The nooses—two should be ample if the cable was heavy—could be laid in a broad circle around the area which the jets had flattened and devastated. They could be drawn tight from afar, and would probably slip upward by themselves, coming to rest just above the tubes, where the body of the flier was narrowest. If a cable did get stuck on something, someone would have to dash close and free it. A snort of jetfire during those few seconds would destroy him. But quite probably the flier, or its masters, could be kept from noticing him.

"And when we do have the monster leashed, what then?" asked Twenty-nine.

"We will do what seems indicated," Hundred said. "If the aliens do not seem to be reaching a satisfactory understanding with us—if we begin to entertain any doubts—we can erect trebuchets and batter the flier to pieces."

"That might be best," said Zero, with a revengeful look at One's rider.

"Proceed as ordered," said Hundred.

"But what about us?" Zero asked. "One and myself?"

"I shall come to you," Seven said. "If nothing else, we can stand watch and watch. You mentioned that the aliens polarize more easily than we do. We can wait until it drops from exhaustion."

"Good," said Zero. Hope lifted in him as if breaking through a shell. "Did you hear, One? We need only wait."

"Pain," she whispered. Then, resolutely: "I can minimize energy consumption. Comatose, I will not sense anything . . ." He felt how she fought down terror, and guessed what frightened her: the idea that she might never be roused.

"I will be guarding you all the time," he said. "You and the new one."

"I wish I could touch you, Zero—" Her radiation dimmed, second by second.



Once or twice consciousness returned, kicked upward by fear; static gasped in Zero's perception; but she slipped again into blackness.

When she was quite inert, he stood staring at the unit on her—no, the entity. Somewhere behind that glass and horrible tissue, a brain peered back at him. He ventured to move an arm. The thing jerked its weapon aloft. It seemed indeed to have guessed that the optics were her most vulnerable spot. With immense care, Zero let his arm fall again. The entity jittered about, incapable of his own repose. Good. Let it drain its energy the faster.

He settled into his own thoughts. Hours wore away. The alien paced on One's broad back, sat down, sprang up again, slapped first one hand and then another against its body, made long noises that might possibly be intended to fight off coma. Sometimes it plugged the water tube into its face. Frequently Zero saw what looked like a good chance to catch it off guard—with a sudden rush and a flailing blow, or an object snatched off the floor and thrown, or even a snap shot with his torch—but he decided not to take the hazard. Time was his ally.

Besides, now that his initial rage had abated, he began to hope he might capture the entity undamaged. Much more could be learned from a functional specimen than from the thing which lay dismembered near the iron block. Faugh, the gases it was giving off! Zero's chemical sensor retracted in disgust.

The first dawnlight grayed the cave mouth.

"We have the flier!" Twenty-nine's exuberant word made Zero leap where he stood. The alien scrambled into motion. When Zero came no closer, it sagged again. "We drew two cables around its body. No trouble whatsoever. It never stirred. Only made the same radio hum."

"I thought—" someone else in his party ventured. "Not long ago . . . was there not a gibberish signal from above?"

"There might well be other fliers above the clouds," agreed Hundred from the valley. "Have a care. Disperse yourselves. Remain under cover. The rest of us will have rendezvoused by early afternoon. At that time we will confer afresh. Meanwhile, report if anything happens. And . . . good work, hunters."

Twenty-nine offered a brief sensory linkage. Thus Zero saw the place: the cindered blast area, and the upright spindle shining in the first long sunlight, and the cables that ran from its waist to a pair of old and mighty accumulator boles. Yes, the thing was captured for certain. Wind blew over the snowpeaks, set forest to chiming and scattered the little sunrise clouds. He had rarely known his land so beautiful.

The perception faded. He was in his cave again. Seven called: "I am getting close now, Zero. Shall I enter?"

"No, best not. You might alarm the alien into violence. I have watched its movements the whole night. They grow more slow and irregular each hour. It must be near collapse. Suppose you wait just outside. When I believe it to be comatose, I will have you enter. If it does not react to the sight of you, we will know it has lost consciousness."

"If it is conscious," mused Seven. "Despite our previous discussion, I cannot bring myself to believe quite seriously that these are anything but motiles or artifacts. Very ingenious and complex, to be sure . . . but *aware*, like a person?"

The unit made a long series of sonic noises. They were much weaker than hitherto. Zero allowed satisfaction to wax in him. Nevertheless, he would not have experienced this past night again for any profit.

Several hours later, a general alarm yanked his attention back outward. "The escaped auxiliary has returned! It has entered the flier!"

"What? You did not stop it?" Hundred demanded.

Twenty-nine gave the full report. "Naturally, after the change of plan, we were too busy weaving cables and otherwise preparing ourselves to beat the forest for the dwarf. After the flier was captured, we dispersed ourselves broadly as ordered. We made nothing like a tight circle around the blasted region. Moreover, our attention was directed at the flier, in case it tried to escape, and at the sky in case there should be more fliers. Various wild motiles were about, which we ignored, and the wind has gotten very loud in the accumulators. Under such circumstances, you will realize that probability actually favored the biped unit passing between us and reaching the open area unobserved.

"When it was first noticed, no person was close enough to reach the flier before it did. It slid a plate aside in one of the jacks which support the flier and pulled a switch. A portal opened in the body above and a ladder was extruded. By that time, a number of us had entered the clearing. The unit scrambled up the ladder. We hesitated, fearing a jetblast. None came. But how could we have predicted that? When at last we did approach, the ladder had been retracted and the portal was closed. I pulled the switch myself but nothing happened. I suppose the biped, once inside, deactivated that control by means of a master switch."

"Well, at least we know where it is," Hundred said. "Disperse again, if you have not already done so. The biped may try to escape, and you do not want to get caught in the jetblast. Are you certain the flier cannot break your cables?"

"Quite certain. Closely observed, the monster—the flier seems to have only a thin skin of light alloy. Nor would I expect it to be strong against the unnatural kind of stresses imposed by our tethers. If it tries to rise, it will pull itself in two."

"Unless," said Fourteen, as he hastened through valley mists toward Broken Glade, "some biped emerges with a torch and cuts the cables."

"Just let it dare!" said Twenty-nine, anxious to redeem his crew's failure.

"It may bring strong weapons," Zero warned.

"Ten crossbows are cocked and aimed at that portal. If a biped shows itself, we will fill it with whetted steel."

"I think that will suffice," Zero said. He looked at the drooping shape upon One. "They are not very powerful, these things. Ugly, cunning, but weak."

Almost as if it knew it was being talked about, the unit reeled to its feet and shook the pry bar at him. Even Zero could detect the dullness in its noises. *Another hour*, he thought, *and One will be free.*

Half that time had gone by when Seven remarked from outside, "I wonder why the builders . . . whoever the ultimate intelligences are behind these manifestations . . . why have they come?"

"Since they made no attempt to communicate with us," Zero said in renewed grimness, "we must assume their purpose is hostile."

"And?"

"Teach them to beware of us."

He felt already the pride of victory. But then the monster spoke.

Up over the mountains rolled the voice, driven by the power which hurled those hundreds of tons through the sky. Roaring and raging through the radio spectrum, louder than lightning, enormous enough to shake down moon and stars, blasted that shout. Twenty-nine and his hunters yelled as the volume smote their receptors. Their cry was lost, drowned, engulfed by the tide which seethed off the mountainsides. Here and there, where some accumulator happened to resonate, blue arcs of flame danced in the forest. Thirty miles distant, Zero and Seven still perceived the noise as a clamor in their heads. Hundred and his followers in the valley stared uneasily toward the ranges. On the seashore, females called, "What is that? What is that?" and aquamotiles dashed themselves about in the surf.

Seven forgot all caution. He ran into the cave. The enemy thing hardly moved. But neither Zero nor Seven observed that. Both returned to the entrance and gazed outward with terror.

The sky was empty. The forest rang in the breeze. Only that radio roar from beyond the horizon told of anything amiss. "I did not believe—" stammered Seven. "I did not expect—a tone that loud . . ."

Zero, who had One to think about, mustered decisiveness. "It is not hurting us," he said. "I am glad not to be as close as the hunters are, but even they should be able to endure it for a while. We shall see. Come, let us two go back inside. Once we have secured our prisoner—"

The monster began to talk.

No mere outrageous cry this time, but speech. Not words, except occasionally—a few images. But such occurrences were coincidental. The monster spoke in its own language, which was madness.

Seized along every radio receptor channel there was in him, total sensory and mental linkage, Zero became the monster.

DITditditdit DAH dit-nulnulnulnul-ditditDAHdah & the vector sum: infinitesimals infinitelyadded from nul-to-INFINITY, dit—ditdit—DA—ditditditnul (gammacolored chaos, bang goes a universe scattering stars&planets&bursts-of-fire BLOCK THAT NEUTRON BLOCK THAT NEUTRON BLOCK THAT NEUTRON BLOCK THAT

BLOCK THAT BLOCK THAT NEUTRON) oneone\*\*\*nononul—DATTA—ditdit  
chitterchitterchitter burning suns & moons, burning stars & brains, burningburning-  
burning Burning DahditDahditDahdit give me fifty million logarithms this very micro-  
second or you will Burn ditditditdit—DAYADHVAM—DAMYATA

and one long wild logarithmic spiral down spacetimeenergy continuum of poten-  
tialgradient Xproduct  $i,j,k$  but multiply Time by the velocity of light in nothingness  
and the square root of minus one (two, three, four, five, six CHANGE for duodecimal  
computation ZZZZZZZZZZ)

integral over sigma of del cross H d sigma equals one over c times integral over  
sigma partial of E with respect to t dot d sigma but correct for nonsphericalshapen-  
tropicoordinate transformationtop&quantumelectrodynamichargeelectricalephaselagradi  
enttemperature rising to burning Burning BURNING

dit-dit-chitterchitterchitter from eyrie to blind gnawer and back again O help the  
trunk is burningburningburning THEREFORE ANNUL in the name of the seven  
thunders

Everything-that-has-been, break up the roots of existence and strike flat the thick  
rotundity o' the world RRRIP spacetime across and throw it on the upleaping primordial  
energy for now all that was & will be, the very fact that it once *did* exist, is canceled  
and torn to pieces and

Burning  
Burning  
Burning  
Burning

AND the binding energy of a lambda hyperon by a sigma—minus exploding

As the sun fell down the bowl of sky, and the sky cracked open, and the mountains  
ran like rivers forming faces that gaped and jeered, and the moon rose in the west and  
spat the grisliness of what he had done at him, Zero ran. Seven did not; could not;  
lay by the cave entrance, which was the gate of all horrors and corruptions, as it  
turned to salt. And when God descended, still shouting in His tongue which was  
madness, His fiery tail melted Seven to a pool.

Fifty million years later the star called Wormwood ascended to heaven; and a great  
silence fell upon the land.

Eventually Zero returned home. He was not surprised to find that the biped was  
gone. Of course it had been reclaimed by its Master. But when he saw that One was  
not touched, he stood mute for a long while indeed.

After he roused her, she—who had been unawake when the world was broken and  
refashioned—could not understand why he led her outside to pray that they be granted  
mercy, now and in the hour of their dissolution.

## VII

Darkington did not regain full consciousness until the boat was in space. Then he pulled himself into the seat beside Frederika. "How did you do it?" he breathed.

Her attention remained focused on piloting. Even with the help of the director and radio instructions from the ship, it was no easy task for a novice. Absently, she answered, "I scared the robots away. They'd made the boat fast, you see. With cables too thick to pull apart. I had to go back out and cut them with a torch. But I'd barely gotten inside ahead of the pack. I didn't expect they would let me emerge. So I scared them off. After that, I went out, burned off the cables, and flew to get you."

"Barely in time," he shuddered.

"I was about to pass out. I did keel over once I was aboard." A time went by with only the soft rushing noise of brake jets. "O.K.," he said, "I give up. I admit you're beautiful, a marvel of resourcefulness, and I can't guess how you shooed away the enemy. So tell me."

The director shut off the engine. They floated free. She turned her face, haggard, sweaty, begrimed, and dear, toward him and said diffidently, "I didn't have any inspiration. Just a guess and nothing to lose. We knew for pretty sure that the robots communicated by radio. I turned the boat's 'caster on full blast, hoping the sheer volume would be too much for them. Then something else occurred to me. If you have a radio transceiver in your head, hooked directly into your nervous system, wouldn't that be sort of like telepathy? I mean, it seems more direct somehow than routing everything we say through a larynx. Maybe I could confuse them by emitting unfamiliar signals. Not any old signals, of course. They'd be used to natural radio noise. But . . . well . . . the boat's general director includes a pretty complicated computer, carrying out millions of operations per second. Information is conveyed, not noise; but at the same time, it didn't seem to me like information that a bunch of semisavages could handle.

"Anyhow, there was no harm in trying. I hooked the broadcaster in parallel with the effector circuits, so the computer's output not only controlled the boat as usual but also modulated the radio emission. Then I assigned the computer a good tough problem in celestial navigation, put my armor back on, summoned every ounce of nerve I had, and went outside. Nothing happened. I cut the cables without seeing any trace of the robots. I kept the computer 'talking' while I jockeyed the boat over in search of the cave. It must have been working frantically to compensate for my clumsiness; I hate to imagine what its output 'sounded' like. Felt like? Well, when I'd landed, I opened the air lock and, and you came inside, and—" Her fists doubled. "Oh, Hugh! How can we tell Sam's girl?"

He didn't answer.

With a final soft impulse, the boat nudged against the ship. As grapnels made fast,

the altered spin of the vessels put Earth back in view. Darkington looked at the planet for minutes before he said:

"Good-by. Good luck."

Frederika wiped her eyes with hands that left streaks of dirt in the tears. "Do you think we'll ever come back?" she wondered.

"No," he said. "It isn't ours any more." ■

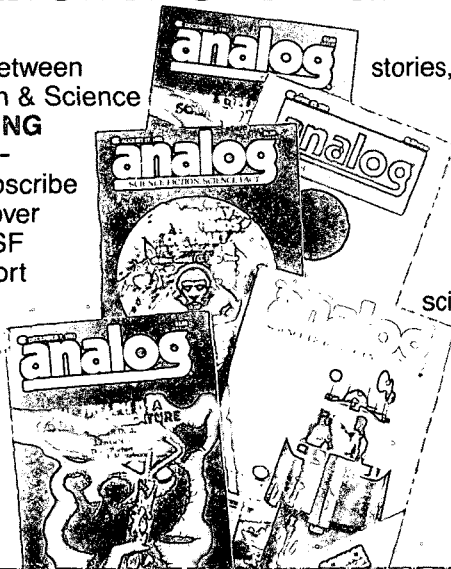
SUBSCRIBE TO

# THE LEADING SCIENCE FICTION SCIENCE FACT MAGAZINE.

The fine line between  
Science Fiction & Science  
Fact is **PUZZLING**  
...and thought-  
provoking! Subscribe  
to Analog for over  
170 pages of SF  
novelettes, short

stories, essays and  
challenging  
editorials.  
Analog  
is an  
impressive  
mix of hard  
science and  
science fiction.

Save  
50¢  
on every  
issue!



Detach here and mail today!

## SCIENCE FICTION **analog** SCIENCE FACT

PO Box 1936  
Marion, Ohio  
43305

**YES! Enter my subscription for one year (13 issues) for only \$12.97—  
a \$6.53 saving over the regular subscription price of \$19.50.**

- ☐ Bill me later, no need to send payment now. ☐ Payment enclosed  
☐ Check here if this is a renewal of your current subscription.

(Outside USA and possessions, please add \$3.23.) Payment must accompany order.

name \_\_\_\_\_

address \_\_\_\_\_

city \_\_\_\_\_

state \_\_\_\_\_

zip \_\_\_\_\_

**Guarantee!**

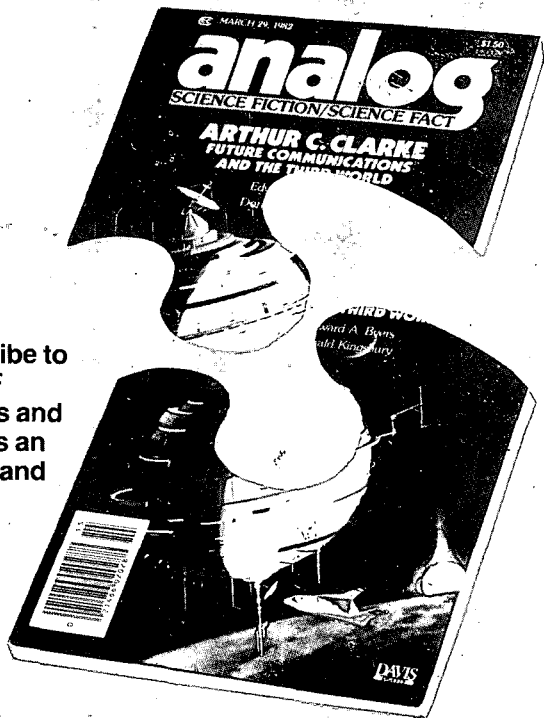
You may cancel your sub-  
scription at any time and  
receive a full cash refund for  
all your unmailed issues.

Or call on your subscription **TOLL FREE** Just dial 1-800-247-2160.

LICENSED TO UNZ.ORG

# The fine line between Science Fiction & Science Fact is PUZZLING...

and thought-provoking! Subscribe to Analog for over 120 pages of SF novelettes, short stories, essays and challenging editorials. Analog is an impressive mix of hard science and science fiction.



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

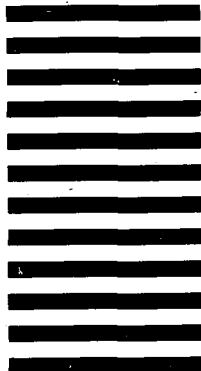
## BUSINESS REPLY MAIL

First Class Permit No. 616 Marion, OH

Postage Will be Paid by Addressee

SCIENCE FICTION  
**analog**  
SCIENCE FACT

P.O. Box 1936  
Marion, OH 43306



LICENSED TO UNZ.ORG  
ELECTRONIC REPRODUCTION PROHIBITED